19

STANDING COMMITTEE
ON ENERGY
(2001)

THIRTEENTH LOK SABHA

MINISTRY OF COAL

FIRE AND SUBSIDENCE CONTROL IN COAL MINES

[Action Taken by the Government on the Recommendations contained in the Tenth Report of the Standing Committee on Energy (Twelfth Lok Sabha)]

NINETEENTH REPORT

LOK SABHA SECRETARIAT
NEW DELHI

December, 2001/Agrahayana, 1923 (Saka)

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Presented to Lok Sabha on.....

Laid in Rajya Sabha on .....

सत्यमेव जयते

LOK SABHA SECRETARIAT
NEW DELHI
December, 2001/Agrahayana, 1923 (Saka)

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COMPOSITION OF THE STANDING COMMITTEE ON ENERGY
(2001)

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*Ceased to be Member of the Committee *w.e.f.* 1.9.2001 consequent upon his induction in Union Cabinet.

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8. Shri A.B.A. Ghani Khan Choudhury
9. Shri Amar Roy Pradhan
10. Shri C.K. Jaffer Sharief
11. Prof. Ummareddy Venkateswarlu

INTRODUCTION

I, the Chairman, Standing Committee on Energy having been authorized by the Committee to present the Report on their behalf, present this 19th Report on the Action Taken by the Government on the recommendations contained in the 10th Report of the Standing Committee on Energy (Twelfth Lok Sabha) on the subject, "Fire and Subsidence Control in Coal Mines" of the Ministry of Coal.

2. The Tenth Report (Twelfth Lok Sabha) of the Standing Committee on Energy was presented to Lok Sabha on 14th December, 1998. Replies of the Government to all the recommendations contained in the Report were received on 22nd March, 1999 and these were further updated on 8th February, 2001.

3. The Sub-Committee on Action Taken Reports as well as Standing Committee on Energy considered and adopted this Report at their sittings held on 12th December, 2001.

4. An Analysis of the action taken by the Government on the recommendations contained in the Tenth Report of the Committee is given at Annexure-III.

5. For facility of reference and convenience, the observations and recommendations of the Committee have been printed in bold letters in the body of the Report.

NEW DELHI;
14 *December*, 2001
23 *Agrahayana*, 1923 *(Saka)*

SONTOSH MOHAN DEV,
Chairman,
Standing Committee on Energy.

CHAPTER I

REPORT

This Report of the Committee deals with the Action Taken by the Government on the recommendations contained in the 10th Report (12th Lok Sabha) of the Standing Committee on Energy on the subject, 'Fire and Subsidence Control in Coal Mines' which was presented to the Lok Sabha on 14th December, 1998.

2. Action Taken notes have been received from the Government in respect of all the 22 recommendations contained in the Report and these were further updated. These have been categorised as follows:—

(i) Recommendations/Observations which have been accepted by the Government:

Sl. Nos. 1, 2, 3, 6, 9, 18, 20, 21 and 22.

(ii) Recommendations/Observations which the Committee do not desire to pursue in view of the Government's replies:

Sl. Nos. 4, 8 and 12.

(iii) Recommendations/Observations in respect of which the replies of the Government have not been accepted by the Committee:

Sl. Nos. 5, 7, 11, 16, 17 and 19.

(iv) Recommendations/Observations in respect of which the final replies of the Government are still awaited:

Sl. Nos. 10, 13, 14, and 15.

3. The Committee desire that final replies in respect of the recommendations for which only interim replies have been given by the Government should be furnished to the Committee within 3 months.

4. The Committee will now deal with the Action Taken by the Government on some of their recommendations.

Detailed Study on Unscientific Mining

Recommendation (Sl. No. 1)

The problem of Fire and Subsidence in Coal Mines had resulted from unscientific mining worked out by erstwhile owners in the fragmented small units. The Committee's examination of the problem revealed that before nationalization of coal industry, in the absence of any restrictive law, most of the mines owned by entrepreneurs operating small units were worked out in an unorganized manner. The Committee had noted that although Mines Act enacted in 1901 and thereafter amended from time to time and the Coal Mines Regulation Act enacted in 1957, yet the reorganization and restructuring of mines as well as developing new mines resulted only after nationalization of coal mines in 1971 and 1973 and subsequently with the coming into existence of Coal India Limited in the year 1975. The Committee had desired that the Central Mines Planning and Design Institute Limited should carry out a detailed study on unscientific and slaughter mining, fix the responsibility and submit a Report for information of the Committee.

In their reply, the Government informed that CMPDIL has completed the study in respect of ECL and BCCL.

7. The Committee have noted that CMPDIL had conducted a detailed study on the unscientific and slaughter mining in respect of ECL and BCCL only. Taking into consideration that such problems also existed in other coal subsidiaries. The Committe recommend that similar study should also be conducted in them. A report in this regard may be submitted for the consideration of the Committee within 3 months of presentation of this Report.

Uniform Policy to Protect Coal Bearing Areas

Recommendation (Sl. No. 5)

8. The Committee had noted that the two options available to avoid recurrence of existing problem due to mine fire and subsidence were (a) to avoid all coal extraction from places where there were habitations on the surface and (b) to prevent development of new habitations on coal bearing lands. The first would involve wastage of huge national assets and the second one would be a sensitive issue.

The Committee, therefore, felt that efforts should be made to extract coal to the maximum extent possible after the inhabitants are resettled on non-coal bearing areas and paid due compensation. The Committee had been informed that there was a West Bengal Government Act regarding Restriction in unsafe area enacted in 1979. However, there was no such legal provisions enacted by the State Government of Bihar. It was only how that the State Government of Bihar was stated to be contemplating to enact a similar law. The Committee were constrained to note that the Government had failed to persuade all mine/mineral producing States to have a uniform/similar law protecting mine/mineral bearing areas from habitation. The Committee hoped that the Government would at least now act to ensure a uniform law in this regard.

9. In their reply, the Government have stated that presently no coal is being extracted below those habitations, declared unsafe by DGMS. As a policy, it has been decided by the company that no new housing construction shall be allowed on the coal bearing areas in BCCL. The High Level Committee, of which the Government of Bihar was also a member, lays down the following recommendations:

(i) Clause 6 (i) Where possible settlements of all unstable areas should be shifted to non-coal bearing zones. For this purpose, satellite townships are the best long term solution against subsidence hazards in the coalfields.

(ii) Clause 6 (ii) there should be total ban on any new construction over declared unsafe areas in the coalfields. The Government of Bihar should also enact a suitable legislation in line with the one already existing in West Bengal preventing construction over unsafe areas.

10. The above recommendations accepted by the Government have been circulated to all the concerned agencies including the Government of Bihar for acceptance. The Mineral Area Development Authority (MADA), Dhanbad has issued a notification banning all construction in the unsafe areas of Jharia coalfield. The Government of Bihar is yet to enact a legislation on the lines of that enacted by the Government of West Bengal as per the recommendations of the High Level Committee mentioned at Clause 6 (ii) above. New houses in BCCL are now being constructed on non-coal bearing areas. The housed which are endangered shall be shifted/resettled and the coal reserve freed to that extent shall be mined after dealing with fires, if any. The State Government of Bihar have notified the constitution of High Level Committee on 22.8.2000 under the Chairmanship of Chief Secretary, Government of Bihar for rehabilitation of non-BCCL people.

11. The Committee note that presently no coal is being extracted below those habitations declared unsafe by the Directorate General of Mines Safety (DGMS). Moreover, no new housing construction has been permitted in coal bearing areas of BCCL. The Committee had observed that a West Bengal Government Act enacted in 1979 restrict construction of houses in unsafe areas. However, similar legal provision was not enacted by Government of Bihar. The Committee, had therefore, expected the Government to enact such a legislation so as to ensure a uniform law in this regard. The Government in their reply dated 8th February, 2001 have stated that the State Government of Bihar have notified the constitution of a High Level Committee on 22.8.2000 under the Chairmanship of Chief Secretary, Government of Bihar for rehabilitation of non-BCCL people but had not enacted any legislation on the lines of that enacted by the Government of West Bengal. The Committee failed to understand as to why the Central Government still failed to convince the Government of Bihar and other coal producing States for enacting a similar law and desire that the matter should now be expedited with the State Government of Jharkhand. The Committee would also like to be apprised of the outcome of the High Level Committee constituted to identify the rehabilitation of non-BCCL people.

Irregularities in Stowing Operations

Recommendation (Sl. No. 7)

12. The Committee were informed that according to one estimate, Jharia Coalfield has 4,343 subsided pockets and nearly 4000 hectares of land had subsided by over 0.6 meter to 1 meter before 1988. The Committee were informed that with scarcity of sand and economic consideration, depillaring with stowing, for eco-friendly underground mining, were stated to be the reasons for decrease in stowing work. The Committee had urged that immediate steps should be taken to remove the shortcomings in fire extinguishing programme. The Government's view that there was lack of sand was not acceptable to the Committee. The Committee had recommended that all the past and present irregularities in stowing operations be investigated by Chief Vigilance Commissioner and responsibility be fixed against the officials found guilty in this regard.

13. The Government in their reply submitted to the Committee on 8.2.2001 have stated that in order to resolve the issue regarding compilation of report on stowing operations, CVC arranged a meeting between Ministry of Labour and Ministry of Coal. It was decided that the DGMS and the Ministry of Labour will compile the Inspection Reports and forward to Ministry of Coal for onward transmission to CVC for consideration and advice. In view of this decision, Ministry of Labour had forwarded a voluminous report on stowing compiled by DGMS for examination and comments by the Ministry of Coal and onward communication to CVC. It is submitted, in this connection, that the report prepared by DGMS required thorough examination by experts and thereafter comments were to be forwarded to CVC. Shri A.N. Mukhopadhyay, ex-DMS, DGMS was appointed by the Ministry of Coal to examine the Inspection Reports. The report of Shri Mukhopadhyay was sent to Vigilance Section. CVC requested for confirmation regarding aspect of irregularity being examined and persons held responsible for the same. It is stated, in this connection, that in the report no mention has been made about any irregularity and also fixation of responsibility for the same. The report states that violation in sand stowing detected were later rectified. The report also states that DGMS is the authority in the matter and they are taking necessary action. The report is of the nature, which is silent on the fixation of responsibility on any individual. Therefore, it is not possible categorically to State/issue confirmation as requested by Vigilance Commission.

14. The Committee note that Central Vigilance Commission (CVC) has arranged a meeting between the Ministry of Labour and the Ministry of Coal in order to resolve the issue regarding compilation of report on stowing operations. The Ministry of Labour had forwarded a voluminous report on stowing operations compiled by DGMS for examination and comments by Ministry of Coal and for information of the CVC of the action taken there on. The Committee are constrained to note that the inspection reports were examined by an ex-DMS of DGMS who was appointed by the Ministry of Coal and had confirmed violation in sand stowing which were reportedly rectified later on. The Committee are dismayed to note that the report is silent on fixation of responsibility on any individual and had reported that the DGMS is the only authority in the matter that can take necessary action. The Committee reiterate their earlier recommendation, that all irregularities/violations in stowing operation be brought to the notice of CVC for examination. The Committee, therefore, recommend the Government to re-examine the violation detected in sand stowing by the ex-DMS of DGMS so that individual responsibility can be fixed and also information may be conveyed to the CVC for necessary action.

Norms for Inspection of Mines by DGMS

Recommendation (Sl. No. 8)

15. The Committee had observed with dismay that subsidence occurred at such places where Directorate General Mines (DGNS) had granted permission for mining. The DGMS informed the Committee that it did not have enough work force to have complete inspection of mines and it carries out only periodic inspections. The Committee had desired to know the reasons for inadequate staffing of DGMS and strongly urged the Government that the DGMS be suitably strengthened so as to make regular inspections of mines. The Committee opined that norms be fixed for regular inspection of mines by DGMS.

16. In their reply, the Ministry of Labour informed that the role of DGMS is to oversee compliance of the mine safety laws for safety and health at work of person employed in mines. The subject of protection on national assets does not fall under its purview. There is practically no case/no record, where the permission to extract coal granted by DGMS has been found to be faulty to the extent to cause fire and subsidence resulting in damage to surface features proposed to be protected. It is either, concealment to information or the failure to comply with the condition of the permission and its violation that had resulted into fires and subsidence causing damage to surface features. It is important to appreciate that the permission granted by DGMS is only an extension of the safety rules and regulations which unless respected may have serious consequences. The DGMS have norms of inspection for the inspecting officers. This is as high as 120 inspections days for Assistant Directors and Dy. Directors and 80, for Directors. These norms of inspection are exisiting in this Directorate for a long time. Most of the inspecting officers exceed the yearly norms of inspections.

17. The Committee are surprised to find that whereas on one hand DGMS is claiming shortage of manpower to conduct inspection of coal mines and on the other hand very low norms for inspection has been fixed for them. For instance, Assistant Director and Deputy Director are required to conduct 120 inspections, the Director undertake only 80 inspections in a year. In the opinion of the Committee, the role of DGMS in ensuring safety of mines is secondary to none. It thus becomes more an important to assign adequate job to the inspecting personnel. The Committee would like to be apprised of the circumstances and period/time when such low norms were fixed and in what manner there has been perceptible changes in the mine safety environment and job. At the same time, the Committee recommend that the Government should re-assess the workload of inspecting officers, and fix norms accordingly so that they are able to discharge a more meaningful obligation towards mine safety.

Setting up of Special Mining Tribunals

Recommendation (Sl. No. 10)

18. The Committee had observed that during the last 5 years, Directorate General Mines Safety (DGMS) launched 138 prosecutions. Out of these, 84 prosecutions were on account of accidents resulting due to violations of safety norms. Taking a serious note of violations of safety norms by the coal companies, the Committee had desired to know the action taken by the Government against these violations apart from prosecution launched by DGMS. The Committee were further distressed to note that out of these 138 cases only 7 cases were disposed of so far. Moreover, there were 6 acquittals and one conviction in these 7 cases. In view of the outcome of cases, the Committee had deplored the way the Directorate General Mines Safety handled the cases and recommended that the Government should take necessary steps to identify the deficiencies in prosecutions and rectify the same in other pending cases.

19. In this connection, Ministry of Labour have replied that case of violations of Mines Act, 1952 and subordinate legislation framed thereunder are filed in the Court of Chief Judicial Magistrate having the Jurisdiction. The matter of listing of the cases and its disposal follows the procedure set up by these courts over which the DGMS has no control at all. However, a proposal for setting up of special mining tribunals for speedy trials of Mines Act cases is under consideration of the Government. Most of the cases take a long time, during which the inspecting officers who is the complainant is usually transferred elsewhere. He has to therefore undergo long travel to attend the Court on specific days which in many cases is unfortunately adjourned. This causes loss of time and money. Further inspection activities also suffers as the inspecting officers' time is consumed in court work and incidental travels. Obviously, his interest in such court cases, gradually reduces. In order to make up these deficiencies a plan scheme titled "Enforcement of Mine Safety Laws through improved legal set up of DGMS" has been framed for inclusion in the 9th Plan.

20. The Government in their reply dated 8.2.2001 have further stated that 25 accident cases have been lodged by DGMS against BCCL employees during the 1993–97. During the last 3 years as per BCCL record, 65 cases of accidents have been reported. In all the cases there have been recommendations and fixation of responsibility by Internal Safety Organisation of BCCL also. Not much differences have been noticed by the enquiry proceedings of the two different agencies.

21. The Committee are dismayed to note the slow progress of the disposal of the cases filed by the DGMS on account of violation of mine safety laws. The Government in their reply dated 22nd March 1999 had stated that since most of cases takes a long time during which the inspecting officer who is the complainant is transferred elsewhere, a proposal for setting up of special mining tribunal for speedy trials of Mine Act cases is under consideration of the Government. The reply of the Government furnished later on *i.e.* on 8th February, 2001 is silent about the implementation of this proposal. The Committee would, therefore, desire to know the action taken on the proposal and strongly recommend the Government to take necessary action for expediting the setting up of these special mining tribunals. The Committee would also like to know the reasons for higher percentage of acquittals in DGMS prosecutions and the present status of plan scheme entitled "Enforcement of Mine Safety Laws through improved legal set-up of DGMS" which was included for implementation in 9th Plan.

DGMS Guidelines for Blasting Operations

Recommendation (Sl. No. 11)

22. The Committee had observed that in some areas houses were affected due to the blasting operations undertaken by Coal Companies as per specifications given by DGMS. The Committee had, therefore, desired that the Ministry of Coal to ensure that blasting operations be recorded with the technique available and the coal companies should not be allowed to compromise the safety of people and dwellings in coal mining areas. The Committee were constrained to learn that the Directorate General Mines Safety (DGMS) had not issued strict instructions to coal companies to ensure that different blasting operations be recorded, if the technique for the same is available. The Committee had desired the DGMS to ensure the same in future.

23. In this connection, the Ministry of Labour (DGMS) informed that it is a part of the established procedure that the mine management proposes a detail system of blasting in open cast mines where there are permanent structures within the danger zone. Such proposals are often accompanied by scientific reports of safe charge, safety pattern

etc. of the blast. Sometimes experimental blasts are conducted before finalisation of the permission. Thus the "specification" of DGMS is combined effort of the mining companies, the scientific bodies where such report is obtained from them and finally the DGMS. In this connection it may be added that there may be no case or record where the blast design approved by DGMS have been found to be faulty or incorrect. Failure takes place exclusively because of non-compliance of the condition of approval/permission. The Standard condition of permission for such blasting provide that records of the each blast should be maintained. DGMS has also issued specific technical circulars to the industry to ensure protection of surface features due to blasting.

24. According to the Ministry of Labour, it is a well established procedure whereunder the coal mine management propose a detailed system of blasting in open cast mine wherever there are permanent structures within any danger zone. Although, the Committee had observed that blasting operations carried out by the coal companies are not recorded, the Ministry of Labour have stated that DGMS grants permission only after blast on experimental basis are conducted and it is the combined efforts of the mining companies, the scientific bodies and DGMS. The blast designs approved by DGMS have never been found faulty or incorrect. However, failure do takes place because of non-compliance of the conditions of approvals/permissions. The DGMS has issued specified technical circulars to the industry that records of each blast should be maintained to ensure protection of surface features due to blasting. The Committee are constrained to note that the Ministry of Coal have forward the comments of the Ministry of Labour on the recommendation made by them. The reply is silent about the action taken by the Government (M/o Coal) for ensuring that the standard conditions of DGMS are implemented in letter and spirit. In view of this, the Committee cannot but feel that there are instances of violations by coal companies in carrying out blasting operations. The Committee, therefore, desire the Government to ensure that in future all the blasting operations are recorded without compromising the safety of the people and dwellings in coal mining areas. The Committee would await the action taken thereon.

Danger to Rail Tracks

Recommendation (Sl. No. 13)

25. The Committee were concerned about the danger to railway tracks due to fire and subsidence problems. The Committee observed that mining activities had been undertaken around railway tracks on Adra-Gomoh, Dhanbad-Patherdih and Grandchord line of eastern region. The statutory and mandatory regulations regarding underground mining had not been followed. Many sections of tracks were under distress due to spontaneous ignition of the underground seams left unmined. According to the Ministry of Raiways, the restoration by BCCL had not been able to control the incidence of mine fire around the railway tracks. The Committee had felt that immediate steps should be taken in the affected areas of Grandchord line to ensure that underground fires in the mines which may result into subsidence should not pose any danger to it. The Committee had desired that for better coordination, regular meetings should be held between representative of railways and coal companies to monitor and review the position of fire and subsidence affected rail tracks.

26. In their reply, the Government have stated that the underground working were made below Adra-Gomoh and Dhanbad-Patherdih railways tracks during pre-nationalisation period. BCCL has not made any workings below these lines. The Grandchord railway line lies on non-coal bearing region in BCCL command areas and as such there is no danger to Grandchord line. No underground workings exist below this railway line. The Grandchord railway line is not therefore endangered. BCCL has taken steps to save the Dhanbad-Patherdih line and Adra-Gomoh line from encroachment of fires by taking various safety measures, which are being continued till date. According to the Ministry of Coal, in respect of Dhanbad-Patherdih railway line isolation trench has been made since early 80s and the workings below the railway track have been stabilized by cement grouting through surface bore holes at Lodna-Badgidi sector. Further, water pooling on the surface has also been carried out to prevent encroachment of fire. An EMSC scheme sanctioned by the Ministry of Coal for dealing with fire and subsidence at Lodna for subsidence control and protection of Dhanbad-Patherdih railway line is presently under implementation. In Bararee sector, the fire area has been blanketed near the railway track and further blanketing work shall be taken up. In case of Adra-Gomoh line, blanketing has already been carried out to control fire on the eastern side. Fire control precaution shall be taken on the western side of the track also.

27. The Government have further informed that a scheme for dealing with fire and subsidence control at Lodhana Colliery was sanctioned by the Government of India, Ministry of Coal for a total outlay of Rs. 3.34 crore in March, 1998 which is under implementation. 23,000 cu.m. of sand stowing has been done through bore holes near Railway track on Dhanbad-Patheridh Railway line, 10,000 cu.m. spreading and covering have been blanketed over fire area. Regular interactions with the officials of Eastern Railways are held, for the purpose of monitoring, etc. The matter had been taken up with the Ministry of Railways at MOS (C) level to constitute a Committee for resolving the issue and for submitting a report on the following points: (i) Status of various railway routes with respect to its safety; and (ii) Suggestions for remedial measures which may include realignment of the existing railway routes. Response of the Ministry of Railways to the proposal of the Ministry of Coal is awaited.

28. The Committee find that the Ministry of Coal have suggested to constitute a Committee for resovling the safety related issues such as—(i) Status of various railway routes with respect to its safety, (ii) Suggestions for remedial measures which may include realignment of the existing routes. Sadly, the response of the Ministry of Railways on important aspects like safety of railway tracks and passengers, is still awaited. In this context, the Committee would like to remind the Ministry of Railways that in pursuance of Justice H.R. Khanna's Report on 'Safety in Indian Railways', the Government had provided special financial dispensations to Railways to fulfil safety related activities/obligations. Now, a surcharge has been levied on passengers, for meeting safety expenditure. Undoubtedly, there is a danger to railway tracks due to fire and subsidence problems. Many sections of tracks are under distress due to spontaneous ignition of the underground seams left unmined. The Committee, have taken strong note of the deficiency in safety in railway routes. The Committee, therefore, recommend that the Government should re-assess the status of various railway routes, including realignment of existing routes from the angle of passengers safety. The Committee, also recommend that the Government should fund such studies and follow-up action, taken thereon from the 'Special Railway Safety Fund' created in the Indian Railways. The Committee would like to be apprised of the outcome thereof.

Technology for Delineation of Underground Voids

Recommendation (Sl. Nos. 14 & 15)

29. Regarding establishing a suitable method of delineation of underground voids, the Committee were informed that a Science and Technology Project had been taken up jointly by Lavall University Qubec, Canada, Mining, Geological and Metallurgical Institute (MGMI) and Central Mine, Planning and Design Institute (CMPDIL). The findings of the project report were stated to be not conclusive for an accepted level of confidence in delineating old and inapproachable workings. Although, the Committee were satisfied towards enough R&D work initiated with interaction and involvement of expert bodies from the country and abroad and expenditure incurred to impact training to engineers and experts abroad to study mine fire and subsidence control methods, yet Committee were constrained to note that no concrete methods have been developed/employed to control mine fire and subsidence. The Committee have been informed that in trying to locate the old workings for the purpose of stowing-in from the surface, there would not be insurmountable difficulty. The difficulty which may be faced is to stow a bore-hole that may fall on pillar and may not allow stowing materials underground. Such old workings are very shallow, may be 25-50 feet deep and it may result only in additional boring at a little cost to locate a new stowing bore-hold position. In this connection, the Committee would like the Ministry of Coal to obtain an expert opinion to broadly delineate the border of voids and old stooks to the extent of accurate identification.

30. In this connection, the Government have stated that the best available technique for dealing with mine fire as can be obtained through R&D work and group training abroad, is being utilized for fighting fire in both Raniganj and Jharia Coalfields. EECL/CMPDI has been in communication with various universities and scientific bodies both in India and abroad to explore the possibilities of getting the technology to delineate water-logged inaccessible underground workings. Ascertaining the efficacy of hydro-pneumatic stowing in the water-logged workings of Raniganj has been a problem area till now. NIRM (National Institute of Rock Mechanics, Kolar) along with CMPDI is going for an S&T project to establish a system of ascertaining the voids 40 to 50 metres below the ground by a method known as "Ground Probing Radar Technique". In the meantime, such water-logged inaccessible old working are being stabilized through the process of hydro-pneumatic stowing. Based on the old plans (which may not be dependable) the stowing of the unapproachable underground voids is being carried out by putting bore holes from surface. At present stowing of unapproachable underground voids is being carried out.

31. On a point of ascertaining the efficacy of hydro-pneumatic stowing in the water logged workings of Raniganj, the Committee had recommended the Government to obtain expert opinion to broadly delineate the border of voids and old stooks to the extent of accurate identification and desired that feasibility of available technique be examined forthwith. The Government in their Action Taken Notes have pointed out that this is a problematic area and therefore National Institute of Rock Mechanics (NIRM), Kolar along with CMPDIL is undertaking a S&T project, to establish system of ascertaining the voids 40 to 50 metres below the ground by a method known as "Ground Probing Radar Technique". The Committee are constrained to note that at present the stowing of approachable underground voids is allegedly being carried out by putting bore-holes from surface based on the old plans which are not dependable. The Committee desire that NIRM along with CMPDIL should complete S&T project, in a time-bound manner and the Committee be apprised of the latest position in this regard. The Committee also desire that fresh studies/surveys should be carried out of unapproachable underground voids.

Implementation of Environmental Measures and Subsidence Control Scheme

Recommendation (Sl. Nos. 16, 17 & 19)

32. It had been brought to the notice of the Committee that although the Government had been providing funds for fire and subsidence control measures, Section 7(1) of the Coal Mines (Nationalisation) Act, 1973 provide that every liability of the owner, agent, manager or managing contractor of a coal mine in respect of any period prior to the appointed day, shall be the liability of such owner, agent, manager or managing director as the case might be and should be enforceable against him and not against the Central Government company. The Committee were informed that due to such provision, there was delay in clearing funds by the Ministry of Finance for fire and subsidence control measures. The Committee felt that the Government/Coal India Limited could not absolve itself from the responsibility of stabilization/reclamation of land under the leasehold area of its coal companies even the existing provisions did not cover these two eventualities. The Committee were strongly of the opinion that the Government should ensure timely release of funds for the purpose and if need be, necessary amendment might be carried out in the Coal Mines (Nationalisation) Act, 1973 in this regard.

33. In their reply, the Government have stated that the High Level Committee under the chairmanship of Secretary (Coal) had gone into the aspects of dealing with subsidence and fire control measures in Jharia and Raniganj coalfields in a comprehensive manner. The Committee, *inter alia*, recommend to prepare an action plan and deal with such problems in a phased manner. The requirement of funds which would be of the order of Rs. 4070 crore would come from the excise duty on dispatch of coal under coal Conservation and Development Act, 1974 in a phase manner over a period of 15 to 20 years. The CCDA rules have been suitably amended to cover the rehabilitation and resettlement of the persons for the declared unsafe areas. In line with the recommendation no. 8 of the High Level Committee one scheme each by ECL & BCCL for shifting of the population from the unsafe area has been taken up without waiting for the positioning of the institutional arrangement. These schemes for ECL and BCL costs Rs. 32.52 crore and Rs. 33.88 crore respectively and have been sanctioned by the Expenditure Finance Committee in March, 1998 for implementation in phases and agreed for release of Rs. 1 crore each, only in the initial stage. Further, release of fund was subject to satisfactory utilization of fund and review of the physical progress by a Committee particularly after assessing the willingness of the people to shift to new sites and the extent of cooperation by the State Government.

34. A demonstration scheme for shifting of people from the most endangered areas for rehabilitation of 400 houses (1500 BCCL and 3100 non-BCCL) at a cost of Rs. 33.88 crore is under implementation. BCCL has completed construction of 32 houses for BCCL employees and 20 families have been shifted. Further, 48 houses have also been completed. Revised cost estimates of Rs. 58.78 crore is under final approval. Houses have not constructed for non-BCCL employees by the State Government. Sub-Authority has been constituted recently by the Government of Bihar.

35. Further, 8 number of schemes — 4 dealing with fire control and 4 dealing with subsidence control have been sanctioned by the Government for a total investment of Rs. 16.18 crore. These schemes have gestation period ranging from 1 year to 6 years. The schemes are under active implementation and more than Rs. 9 crore have been spent till date. The status is as follows:-

Fire Control Projects

(i) Alkusa: Drilling, sand flushing and filling/blanketing is in process.

(ii) Rajapur: Sand flushing, filling/blanketing, multi transporting in is process.

(iii) Lodna: Sand flushing, filling/blanketing, multi transporting is in process.

(iv) Industry: Drilling, sand flushing, shifting/demolition of houses is in progress.

Stabilization Projects

(i) East Bhagatdih: completed in December, 1999

(ii) Kari Jore (kusunda-Industry boundary): completed in June, 1999

(iii) Joyrampur: Drilling, sand flushing, grouting is in progress

(iv) Kusunda Yard: Stowing in XI seam completed, X seam is in progress

36. One more scheme relating to stablization of UG workings below Bata More of Jharia has been completed, through CMRI, Dhanbad on turn-key basis, at a cost of Rs. 30 lakh. Though a scheme for rehabilitation of 4 unstable locations in ECL have been approved by the Ministry of Coal with capital cost of Rs. 32.52 crore but little progress could be made due to unwillingness and non-cooperation of affected people who want to get rehabilitated within 1 km of their present sites, which is not feasible. Base line survey has been completed and village level Committees have been formed. No expenditure could be made so far.

37. The Committee observe that the scheme for shifting of people from most endangered areas for rehabilitation of 4600 houses (1500 BCCL and 3100 Non-BCCL) at a cost of Rs. 33.88 crore has been revised to Rs. 58.78 crore. The Committee would like to know the reasons for the cost escalation and desire that the Government should review the implementation of the programme for construction of houses. The Committee also desire that the scheme be completed at the earliest. Taking note of the delay in implementation of Environment Measures and Subsidence Control Schemes, the Committee feel that there will be huge cost escalation and the requirements of fund which is projected at Rs. 4,070 crore is likely to be further increased. Although, the Committee cannot blame the Government/CIL for delay in constitution of Sub-Authority by Government of Bihar for construction of houses for non-BCCL people, the Committee take a strong view of the fact that out of 1500 houses, for BCCL employees, only 80 houses have been constructed so far.

38. The Committee also note with dismay that although more than Rs. 200 crore are required per year to implement EMSC schemes to complete them in 15-20 years, a meagre amount has been sanctioned/disbursed during the last 3 years. The Committee feel that the Government is not serious in the implementation of the schemes to protect mines from fire and protection of people inhabited in and around coal mine areas. The Committee, therefore, recommend that Government to finalise an action plan to implement the EMSC scheme during the next five years and provide adequate funds to implement the EMSC scheme. The Committee would like to be apprised of the action taken in this regard. Taking into consideration the safety involved, the Committee recommend that some budgetary support be extended by the Government to take up such schemes. This will ensure completion of the schemes expeditiously.

39. The Committee find that the reply of the Government is silent in respect to Section 7 (1) of the Coal Mines (Nationalisation) Act, 1973 which is considered to be the main hindrance in release of funds for fire and subsidence control measures. The Committee would like to be apprised of the action taken by the Government thereof.

CHAPTER II

RECOMMENDATIONS/OBSERVATIONS THAT HAVE BEEN ACCEPTED BY THE GOVERNMENT

The problem of Fire and Subsidence in Coal Mines has resulted from unscientific mining worked out by erstwhile owners in the fragmented small units. The Committee's examination of the problem reveals that before nationalisation of coal industry, in the absence of any restricting laws, most of the mines owned by entrepreneurs operating small units were worked out in an unorganised manner. The Committee find that although Mines Act was enacted in 1901 and thereafter amended from time to time and the Coal Mines Regulations Act was enacted in 1957 yet the reorganisation and restructuring of mines as well as developing new mines resulted only after nationalisation of Coal mines in 1971 and 1973 and subsequently with the coming into existence of Coal India Limited in the year 1975. The Committee are constrained to observe that despite existence of mine safety rules and regulations and presence of DGMS. 76 incidence of spontaneous heating and fire have been reported during 1993-96 alone. Taking note of the mine fire and subsidence problems in Jharia and Raniganj even after 25 years of nationalisation, the Committee are of the view that the coal companies cannot absolve themselves of the subsequent unscientific mining carried out by them resulting in present day complex problem. The committee find that unscientific or slaughter mining being carried out in coal mines and left unchecked by the officials of coal companies is one of the reasons resulting in fire and subsidence. The Committee desire that the Central Mine Planning and Design Institute Limited (CMPDIL) should be entrusted to carry out a detailed study on unscientific and slaughter mining, fix the responsibility and submit a Report for information of the Committee within 3 months.

CMPDIL has completed the study. ATR on recommendations of each report is annexed.

(Ministry of Coal OM No. 54012/3/98/CRC dated 22.3.99)

Status as on 8-2-2001;

In respect of ECL and BCCL is furnished at Annexure 'A' & 'B'.

(Ministry of Coal O.M. No. 54012/3/98/CRC dated 8-2-2001)

Comments of the Committee

(Please *See* Paragraph 7 of Chapter I of the Report)

ACTION TAKEN REPORT ON SUMMARISED FINDINGS OF THE STUDY OF UNSCIENTIFIC MINING (PH-I) in the collieries of ECL

Sl. No.	Mine/Area	Type of mine	Nature of unscientific activities	Corrective measures taken/ proposed to be taken by ECL	Present Status
1	2	3	4	5	6
1.	Ghanashyam/ Kajora	UG	(a) Virgin reserves in R-VIII(B) seam in the south eastern part of the mining leasehold which could have been developed and extracted through the existing entries have been left out and this will have to be worked through new entries in future.	(a) The leftout reserves in R-VIII Bot. seam will be worked through new entries in future wherever found economically viable.	(a) Further study has revealed that area is totally water logged and hence not economically viable.
			(b) Reserves in R-VIII(B) seam in north west of the pits lying at very shallow cover were developed by B&P method. These reserves were known to be economically opencastable.	(b) These could not be worked by opencast due to non-availability of land. Therefore, this seam was developed by board and pillar method. Now the developed reserves amendable for opencast mining are being proposed to be extracted by open cast method.	(b) A proposal has been made for open cast mining and the same has not materialised yet.

1	2	3	4	5	6
			These developed reserves are presently being proposed to be extracted by opencasting. Besides above, there are no other incidences of unscientific mining in this mine during post nationalisation period.		
2.	Madhusudanpur/ Kajora	UG	Subsidence took place in 1992-93 below Bauripara village possibly due to stowing village possibly due to stowing lag/incomplete stowing in flatly grading depillaring panels of R-VIII top & bottom seam. R-IV seam working above R-VIII top and bottom seams are standing on pillars and were water logged at the time of occurrence of this incidence Besides above there are no	The affected persons of the village are being rehabilitated at safe places. Suitable administrative action had been taken against the local management.	The affected persons have been rehabilitated.

1	2	3	4	5	6
			other incidence of unscientific mining during post-nationalisation period.		
3.	Parascole West/ Kajora	UG	Around 1.3 mt of developed coal reserves in R-IX & R-VIII seams have been left unextracted apparently without any reason. Besides above, there are no other incidences of unscientific mining in this mine during post-nationlisation period.	The reserves in R-IX seam had to be left out due to difficulties of water and sand accumulation. The reserves in R-VIII seam were left because of occurrence of fire in the development workings. Entries to both the areas are now cut-off and cannot be extracted now by u/g method. However, study is being made if it is economically feasible to extract atleast part of the reserves in R-IX seam by O/C method. The manager and Agent of the concerned colliery have been directed to ensure that entries to the extractable coal reserves should not be cut-off without proper direction from the corporate level.	Further study has revealed that opencast mining is not economically viable
4.	Madhujore/ Kajora	UG	A panel in R-IX seam lying below seasonal nullah was permitted to be depillared with stowing. However this	Prompt corrective action had been taken to prevent any damage to the mine by construction of isolation stoppings around the area of pot holes. suitable administrative	—

1	2	3	4	5	6
			was depillared by caving resulting into pot holing at the surface. Further on the rise side, a few more pillars were extracted by caving very close to pits without approval of the DGMS in 1992-93, prompt corrective action to prevent any danger to the mine as well as administrative actions against the local officials were taken by the corporate management.	action against the local officials had also been taken immediately by the corporate management.	—
5.	Khas Kajora/ Kajora	UG	(a) At least two panels have been caved in R-VIII(B) seams in P.D. Kajora unit in 1973-75 which are very close to the pits while the whole area on the dip side was still virgin/standing on pillars.	(a) Regular monitoring of the condition of the goaved out areas has been continuing during past 20 years and the areas on the dip side in both the seams have been developed.	—

1	2	3	4	5	6
			(b) There have been incidences of sudden collapse in Khas Kajora unit in 1978-79 and fire in old workings in the areas where bottom seams were standing on pillars indicating very poor condition of such development working prior to nationalisation. These working were sealed and isolated. Besides above, there are no other incidences of unscientific mining in this mine during post-nationalisation period.	(b) The fire had occurred in the old workings in the areas where Jambad top and bottom seams were standing on pillars. The fire was controlled and isolated. Due to smaller size of pillars developed before nationalisation it is highly un-economical to extract the available coal reserves in these areas in conjunction with hydraulic sand stowing at present.	
6.	Naba Kajora/ Kajora	OC	Opencast workings got connected with U/G workings and water got into the mine. Subsequently the O/C has been filled up to prevent	The decoaled areas of the opencast has already been filled up to prevent water entering into the shafts.	

1	2	3	4	5	6
			water ingress into the shafts. Barring the above, there is no incidence of unscientific mining involving loss of coal or endangering life of persons in this mine during post-nationalisation period.		
7.	Bankola	UG	A portion of R-IX seam in N.K. Unit has been developed in 1992 under shallow cover (15 m hard cover) in the vicinity of a seasonal nullah. There was pot holing over this development workings in January, 1993. The development workings were stablished by sand stowing of the galleries. Also the nullah was diverted and embankment made against the nullah. Immediate	The shallow depth developed workings (R-IX seam) were stabilised by sand stowing of the galleries. Also the nullah was diverted and embankment made. Immediate administrative action against the local management was taken by the corporate management.	—

1	2	3	4	5	6
			Administrative action was taken by corporate management. There are no other incidences of unscientific mining in this mine during post-nationalisation period.		
8.	Shankarpur U/G Bankola	UG	Barring the occurrence of fire at Jambad seam and inundating the workings thereby locking up the coal reserves in developed pillars, there is no incidence of unscientific mining endangering life of persons in this mine during post-nationalisation.	The fire had occurred in the area, major part of which had been developed in two sections both during pre and post nationalisation period. Inundation of workings had to be resorted to in order to control fire. These u/g workings are water logged at present. However, based on available knowledge regarding the condition of u/g, working it is not economically viable to extract these reserves at present.	—
9.	New Kenda/ Kenda	UG	In 1994, occurrence of fire has resulted in death of 55 workers in this mine. Besides this due to other occurrences	8m thick Kenda seam has been extracted in No. 8 pit mine in two lifts in conjunction with hydraulic sand stowing. The total depth being in the range of 50m-80m full	—

1	2	3	4	5	6
			of fire, pit 8 had to be closed along with loss of developed coal reserves.	packing upto the roof in the goaf could not be ensured in the past resulting into existence of active fire in such sealed out goaves. In order to prevent the danger to the persons, part of the workings consisting of such goaved out areas have been totally sealed of close to the pit.	
10.	Kunustoria	UG	Extraction of Kenda seam have rendered some portion of overlying Singaran seam unworkable which is being mined through Toposi colliery, 2m to 3m roof coal had been left in goaf in Kenda seam due to caving method adopted in some panels. Later stowing had been adopted. There is no other incidence of unscientific mining during post nationalisation period.	Kunustoria colliery has no entry into Singaran seam over lying Kendda seam with a parting of 25m to 35m. The thickness of Singaran seam in the part of area was in the range of 1.5m - 2m. There were no hydraulic sand stowing arrangement available in this mine during the period 1973-78 and as such 4.5m to 4.8m thickness out of total thickness of 8m was extracted by caving in a few panels during that period. However, since 1978-79 the seam is being extracted in conjunction with hydraulic sand stowing only.	

1	2	3	4	5	6
11.	Amritnagar/ Kunustoria	UG	Depillaring by caving in a few panels was done during post-nationalisation period where surface structures were existing thereby endangering the stability of such surface structures. These have been shifted later on or are proposed to be shifted to safe locations.	Endangered surface structures falling over the caving panels have been shifted/are proposed to be shifted to safe locations.	Endangered surface structures falling over the caving panels have been shifted to safer locations.
12.	Nirsa O/C Mugma	OC	OB material had been dumped on lower coal horizons which is needed to be rehandled now for continuation of O/C operations. Apart from there is no incidence of unscientific mining.	Due to non-availability of non coal bearing land close by, dumping of OB had to be done on coal bearing areas in the past. This is now being rehandled/proposed to be rehandled.	At present the mine is water logged due to unprecedented rain on 21.9.2000.
13.	Samla/ Pandaveshwar	UG	There has been considerable lag in stowing operations as well as improper stowing causing heating resulting in	Geological setting in Samla seam in this colliery is such that the seam is almost flat and as such there have been difficulties in getting the goaf fully stowed in time. Samla	

1	2	3	4	5	6
			loss of coal in some panels. Barring the above, there is no incidence of unscientific mining involving loss of coal or endangering life of persons in this mine during post-nationalisation period.	seam being highly susceptible to spontaneous combustion instances of fire in such panel had taken place. The mine is now almost at the final stage of working and as such no further technical actions are called for.	
14.	Kenda/ Pandaveshwar	UG	Access to some coal pillars has been lost due to improper depillaring. Barring the above, there is no incidence of unscientific mining involving loss of coal or endangering life persons in this mine during post-nationalisation period.	The coal reserves had to be left out due to problem of water accumulation. Since the entries to these reserves are now cut off it is not possible to extract these reserves.	
15.	Kushadanga incline Mine/Girmint/Sripur	UG	There is no incidence of unscientific mining involving loss of coal or endangering life of persons in this mine during post-nationalisation	All the families affected due to incidence of subsidence in Girmint colliery in 1993 have been/are being suitably rehabilitated by ECL at safe locations.	All the families have been suitably rehabilitated to safe locations.

1	2	3	4	5	6
			period. Girmint is a closed mine. Occurrence of subsidence in 1993 may have been due to the combined effect of caving of Koithee (R-III) and Poniati (R-II) seams in the past along with splitting operations of Rana (R-V) seam.		
16.	Ghusick/Sripur	UG	The parting between the workings in R-IX and R-IXA seams are not uniform and are not superimposed. This has caused a fatal accident. DGMS has directed for taking all precautions in these workings and fully supporting the bottom section workings. Due to fire at New Ghusick unit, workings in Ghusick seam has been suspended.	As the parting between R-IX and R-IXA seams in these areas was in the range of 3m to 5m sometimes it was difficult to maintain it due to roof falls etc. Adequate supports in the gallery junctions in R-IX A seam have been provided to prevent collapse of the parting. The developed reserves in the two seams-namely. R-IX & R-IXA seams in this areas are proposed to be extracted in conjunction with hyddraulic sand stowing so as to take care of lack of super imposition of the two workings.	Extractions of the developed reserves in the 2 seams *i.e.* R-IX and R-IXA has been started in conjunction with the hydraulic sand stowing so as to take care of the lack of super imposition wherever necessary.

1	2	3	4	5	6
			Measures are being taken as directed by DGMS. Barring the above, there is no incidence of unscientific mining involving loss of coal or endangering life of persons in this mine during post-nationalisation period.		
17.	Damra/Sripur	UG	Extraction of lower seams have damaged overlying Upper Dhadka seam which could not be mined. There is no other incidence of unscientific mining during post-nationalisation period.	Major part of reserves in upper Dhadka seam (R-X) had already been undermined by extraction of R-IX and R-IXA seams during pre nationalisation period. The development and extraction of these seams as also in underlying R-VII seam continued during post-nationalisation period too. Efforts to develop R-X seam had been made during the period 1989 to 1996 but due incidences of emission of noxious gases from underlying goaves and uneven floor conditions the workings in R-X seam have been abandoned in 1996-97.	

1	2	3	4	5	6
18.	Sonepur/Bazari 'a' O/C	O/C	Mining operations being carried out are found to be scientific except for rehandling to be done in future of the OB dump that has been put on the floor of RV/RVI seams while working Kumarkhala Ph-I & Kumarkhala Ph-II projects during 1980-86.	Dumping of OB on the coal bearing opencastable areas had to be done because of non-availability of non-coal bearing areas in the close proximity of the working mine in that period. However, these OB dumps are presently being re-handled to expose the lower coal horizons.	Rehandling of the OB dumps in the quarry to expose the lower coal horizon has been started is continuing.
19.	Chitra Colliery/ SP Mines	OC	Some of the OB dumps made on coal bearing areas precludes rehandling resulting in loss of coal reserves. There is no other incidence of unscientific mining involving loss of coal or endangering life of persons in this mine during post-nationalisation period.	Dumping of OB on the coal bearing opencastable areas had to be done in the past because of non-availability of non coal bearing areas in the close proximity of the mine workings. Locked coal reserves are however proposed to be extracted wherever economically viable at present.	The rehandling is not required at present.

ANNEXURE 'B'

SUMMIARIZED FINDINGS OF THE STUDY ON UNSCIENTIFIC MINING IN BCCL MINES

Sl. No.	Name of the mine/area	Category	Nature of unscientific activities	Corrective measures taken/ proposed to be taken by BCCL	Latest status
1	2	3	4	5	6
1.	Phularitand/ Barora	Existing UG	Unstowed void in XV seam 2 A panel, and below Phularitand market (20130 m3)	While working 2A panel with stowing in XV seam, it is reported that heating was detected in panel. As a result mining operations were suspended and the incline mouth sealed off immediately to check the advance. Thus stowing could not be completed before sealing the area. It is proposed to fill up the void of 20130 cum. by stowing through boreholes. The activity will be completed within a span of two years.	While working 2A panel with stowing in XV seam it is reported that heating was detected in the panel. As a result mining operations were suspended and the incline mouth was sealed off to check the advance.
2.	Block-II (C)/ Block-II	Planned OCP	OB is being back filled on planned quarriable VIIIB seam	Mining operation is being shifted to western part of Block-II OC (from eastern sector) where VIIIB seam will be extracted as per approved project report.	Mining operation has been shifted to western part of BI-II OCP (from eastern sector) where VIIIB seam is being extracted as per approved project report.

1	2	3	4	5	6
3.	Loharpatti UG/ Western Jharia	Existing UG	Shallow cover below first level east development at No. 16 incline in Pathergarhia "A" seam and first two levels at No.7 incline in Loharpatti bottom seam	(i) Action being taken to fill up the void of 250 cum. (the area is accessible) in Pathergorhia "A" seam. This will be completed within a year's time. (ii) It is proposed to immediately fense off the surface area above Lohapatti Bottom seam working and subsequently voids will be stowed after dewatering within 3 years (6500 cum.)	(i) In Pathergorhia "A" seam the void of 250 cum. has filled up. (ii) Proposal for fencing and dewatering of Lohapatti bottom seam has been sent to competent authority, which is under process.
4.	Murlidih 20/21 pit/ Western Jharia	Planned UG	Shallow cover development at 1&2. Padugora inclines in Mohuda top seam	The shallow cover developed working shall stowed within one year (750 cum.)	Gallery used for travelling roadways etc. has been supported by girders. Stowing work will be taken up later on.
5.	Murulidih	Existing UG	Shallow cover (7th level unpacked) development at 1&2 inclines in Mohuda middle seam	The shallow cover developed workings will be packed with 4000-m3 sand in Mohuda middle seam through boreholes as the mine is now abandoned. The operation is expected to completed within 3 years.	The mine is abandoned. There is no infrastructure available for stowing. The job can be taken up later on.
6.	Kharkharee/ Govindpur	Existing UG	Stowing lag in XVIIIB seam. Panel-C (12000 cum.) in Phularitand)	It is proposed to make up the stowing lag of 12000 cum. by sand stowing after dewatering through boreholoes. The activity will be completed within 3 years.	It is proposed to make up the stowing lag of 12000 cum. by sand stowing through boreholes.

1	2	3	4	5	6
7.	Teturiya/ Govindpur	Existing UG	Stowing lag in X seam bottom section (C.T. Section)	It is proposed to stow the water logged X seam after dewatering. Stowing will be done through boreholes within 2 years as the mine is presently abandoned.	Dewatering is going on. As soon as dewatering will be completed stowing will be done.
8.	Salanpur/ Katras	Existing UG	(i) Heightening & widening in VIII seam within 45 m of railway acquired land & office (ii) Widening in IX Bottom seam below Katras yard	The workings have been partly supported & action is being taken for supporting/ stabilising the roof area.	The working have been party supported & action is being taken for supporting/ stabilising the roof area.
9.	Mudidih/ Sijua	Existing UG	Heightening of galleries and spiltting of pillars in X seam bottom section G pit area	Workings of bottom section of X seam are being stablished with sand stowing to take entry to west side virgin area. Out of 18000 cum. Total void, 13500 cum. has already been stowed and the rest 4500 cum. will be completed in one month.	18000 cum void as estimated has already been stowed.
10.	Bansdeopur/ Sijua	Existing UG	Lag of stowing in X seam Panel-02 (11500 m3)	As per the DGMS violation due to over splitting of pillars in panel C2 in X seam total stowing lag was 11500 cum. out of which 85000 cum. has already been done. The balance 3000 cum. will be stowed in one month.	As per the DGMS violation due to over splitting of pillars in C-2 in X seam total stowing was 11500 cum. out of which 10500 cum. has already done. The balance will be stowed within 10 days.

1	2	3	4	5	6
11.	North Tisra/ Lodna	Existing UG	(i) Stowing lag in X seam top section (panel -C-7000m3) panel-D-8000m3.	Action has already been taken to complete the stowing lag in Panels C &D of X seam. The job is expected to be completed within 2 years.	Action has already been taken to complete the stowing lag in panels C&D of X seam. The job is expected to be completed within 2 weeks.
12.	Lodna/ Lodna	Planned Project	Unstwoed void in XIIIA and XIII seams below Dhanbad-Pathergorhia Rly. (22000m3)	This has been covered under the approved schemes for dealing with Fire and Subsidence (South Lodna Fire) at Lodna Colliery in July 97 under EMSC scheme. The work is in progress.	This has been covered under the approved schemes for dealing with Fire and Subsidence (South Lodna Fire) at Lodna Colliery in July 97 under EMSC scheme. 50% work done and the work is in progress.
13.	Bhowrah South/ Eastern Jharia	Existing UG	(i) Stowing lag in panel-1 of XI seam 3000 cum. (ii) Stowing lag in IX Bottom seam, (J Panel-1,20,000 cum.)	(i) The void in Panel-1 of XI seam, 18000 cum. already stowed; the balance 14000 cum. is in progress. (ii) The void of Panel-J in XI Bottom seam (1,20,000 cum.) may not require stowing due to presence of 70 m. hard cover. There is no imminent danger to the surface features belonging to BCCL. Total surface area belongs to BCCL. Workings are abandoned at present.	(i) The void in Panel-F (not panel-1) of XI/X seams 18000 cum. 4000 cum. already stowed and the dist. was closed since long. (ii) The void of panel-J in XI Bottom seam (120000 cum.) may not required stowing due to presence of 70m hard cover. There is no imminent danger to the surface features belonging to BCCL (Total surface area belongs to BCCL. Workings are abandoned at present.

Recommendation No. 2

Proper coordination and rehabilitation package for displaced persons

The Committee observed that although the first incidence of mine fire in Jharia coalfield was recorded in the year 1916 and at the time of nationalisation, 70 fires were stated to be raging in this coalfield, the Government have yet to frame any policy for the people who face danger due to these fires. To deal with 70 fires, a total amount of Rs. 114.57 crore was sanctioned in 1976 and a sum of Rs. 73.6 crore is stated to have been spent till now, as a result of which 10 fires have completely been extinguished. In a memorandum furnished to the Committee by various organisations, the Committee have been informed that the inhabitants of Jharia are reluctant to BCCL's idea of shifting elsewhere. The Committee feel that lakhs of people earn their livelihood through trade at Jharia and it may not be acceptable to them to shift to a distant location due to fear of losing job/trade. Although legal provisions can be applied for possible evacuation of the people, the Committee feel that keeping in view socio-economic problem of a large dimension, inhabitants at the more danger areas be evicted only and these people be rehabilitated in the nearby non-coal bearing areas with adequate compensation as per guidelines issued by Ministry of Coal *vide* O.M. No. 49019/4/86-CP/LSW dated 19.10.91.

The Committee feel that the rate of Rs. 300 per month to the families losing lands upto one acre decided in 1990 is not sufficient as subsistence allowance and recommend that it may be suitably enhanced and given at the prevailing market rate.

The Committee are of the opinion that the coal companies should ensure that one person from the family of the project affected people may be provided job as emuerated in the rehabilitation and reclamation package in the guidelines issued by Ministry of Coal vide No. 49019/4/86-CP/LSW dated 19.10.1991.

The Committee also recommend that the mines affected due to fire should not be closed down/abandoned and coal may be extracted to an economic limit and once an area is declared free of coal that can be extracted, the land can be reclaimed by filling with overburden, so that within feature few years the land can be suitable for settlement.

Currently BCCL has no plans to carry out extraction below Jharia town. BCCL has in, unambiguous terms, made known of its intention of not asking the residents of Jharia town to shift or vacate except for a few locations critically endangered by fire which require to be vacated. Such shifting is required as per DGMS's directives.

The major recommendations of the High Powered Committee i.e. (a) identifying & formulating schemes for fire and subsidence mitigation for approval and implementation & (b) Rehabilitation of BCCL employees from endangered areas to non-coal bearing areas have been taken up for implementation by BCCL.

PAPs under the approved projects under (a) above shall be dealt with according to the provisions of CIL R&R Policy, 1994. Regarding revision of rates of subsistence allowance, it may be worth mentioning that National Level R&R policy is under consideration of the Ministry of Rural Development and any revision in CIL R&R, 1994 will be in line with the said policy.

No mine affected by fire is closed down or abandoned unless the safety of the mines and/or persons employed therein is endangered. BCCL is still working about 40 mines having fire problem.

Reclamation work shall be taken up after extraction is completed.

[Ministry of Coal OM No. 54012/3/98.CRC dated 22.3.99]

Status as on 8-2-2001

1. BCCL has started the implementation of the recommendations, as stated above.

2. A modified R & R Policy has been approved by CIL Board at its 190th Meeting held on 12.6.2000 for implementation in all its subsidiary companies.

3. Further, the Govt. has sanctioned a scheme in May' 98 for shifting of people from the most endangered areas of BCCL with an outlay of Rs 33.88 crores. 32 houses have been constructed for shifting BCCL employees and 20 families have been shifted. 48 houses have further being completed and 264 houses are under different stages of construction.

4. The proposal of BCCL for revision of cost from Rs. 33.88 crores to Rs. 58.78 crores was considered in the SSRC meeting held on 1-11-2000 and was approved. Further action to obtain the clearance of EFC/CCEA is being taken.

5. Some reclamation work is already going on.

[Ministry of Coal OM No. 54012/3/98.CRC dated 8.2.2001]

Recommendation No. 3

Legal Rights of Inhabitants to be protected

The Committee find that other than the leases acquired after the promulgation of the Coal Bearing Area (Acquisition and Development) Act, 1957, which came into effect since 12.6.1957, the surface land was invariably owned by individual while the underground rights were under the control of mine owners. The surface area of the coalfields has been inhabited over years by legal acquisition of surface rights. The dwellings became legal under the State law in due course of time with occupancy over 30 years. The Committee note that the conditions became complicated with the thinning, deterioration of the pillar-intresection of multi-section unscientific mining and influence of fire. The Committee expect that the legal rights of the inhabitants over the surface areas of Jharia and Raniganj coalfields will be protected and due compensation shall be given to those whose dwellings are endangered due to fire/subsidence and are required to be removed.

People having legal possession over houses or land requiring shifting on account of fire/subsidence are paid compensation by the Company on merits on case to case basis.

For illegal settlers, it is not possible to pay any compensation as they are "encroachers". Further this matter is sub-judice before Hon'ble High Court at Patna & Hon'ble Supreme Court under two PIL Writs.

[Ministry of Coal OM No. 54012/3/98.CRC dated 22.3.99]

Status as on 8-2-2001

1. In case of people having legal possession of dwellings which are required to be rehabilitated/shifted/demolished on account of fire and subsidence, compensation is paid according to the circumstances and nature of the case.

2. In case of people who have settled illegally over the coal bearing areas, endangered by fire and subsidence and required to be evacuated are being treated as "encroachers", for which the company does not envisage any compensation at present.

However, there are two writ petitions (PIL) pending adjudication at High Court Patna and Supreme Court. These petitions relate to problems of evacuation of the illegal settler (encroachers) from the endangered areas.

[Ministry of Coal OM No. 54012/3/98.CRC dated 8.2.2001]

Recommendation No. 6

Suitable mechanism for stowing works

The Committee's attention has been drawn by Central Mining Research Institute (CMRI) that the dwellings in Jharia coalfields are likely to be affected by ground movement which could be due to caving, crushing of pillars or active fire. Crushing of pillars under heavy stress, undersized stooks in shallow workings for abatement loading and failure of pillars or stooks due to parting failure are likely to cause extensive differential movement and surface deformation resulting in tilting of the houses. The Committee are concerned to note that although the stowing in this coalfield is known to be very effective with 5 to 10 per cent subsidence but delay in stowing, poor-pack density etc. are responsible for high subsidence factor and damage to the dwellings. The Committee would like that a suitable mechanism be worked out by the Government to ensure proper pack density in all the operations at the time of stowing itself and the responsibility for deficiencies should be fixed on the officer supervising stowing operations.

In all the underground mines, stowing is carried out under the supervision of the competent person, defined in the Mines Act.

Further the stowing operations are additionally supervised by the Officer-in-charge/Asstt. Manager/Under Manager, supervising the other mining operation in that particular shift.

Ministry of Coal have issued strict instructions to all the coal companies to ensure proper pack density at the time of stowing itself and the responsibility for deficiencies to be fixed on the officer supervising stowing operations.

[Ministry of Coal OM No. 54012/3/98.CRC dated 22.3.99]

Status as on 8-2-2001

Same as above.

[Ministry of Coal, OM No. 54012/3/98.CRC dated 8.2.2001]

Recommendation No. 9

The Committee note with dismay that subsidence has occurred at such places where Directorate General Mines Safety had granted permission for mining. The Directorate General Mines Safety has informed the Committee that it does not have enough work force to have complete inspection of mines and it carries out only periodic inspections. The Committee desire to now the reasons for inadequate staffing of DGMS and strongly urge the Government that the DGMS be suitably strengthened so as to enable it to make regular inspections of mines. The Committee are of the view that the Government will do well if some norms are fixed for regular inspection of mines by Directorate General Mines Safety (DGMS).

Comments of the Ministry of Labour

The role of DGMS is to oversee compliance of the mine safety laws for safety and health at work of person employed in mines. The subject of protection on national assets does not fall under its purview.

There is practically no case/no regard, where the permission to extract coal granted by DGMS has been found to be faulty to the extent to cause fire and subsidence resulting in damage to surface features proposed to be protected. It is either, concealment to information or the failure to comply with the condition of the permission and its violation that had resulted into fires and subsidence causing damage to surface features. It is important to appreciate that the permission granted by DGMS is only an extension of the safety rules and regulations which unless respected may have serious consequences.

The aberration to some extent can be corrected through more frequent inspections by DGMS to detect violations early and take necessary corrective measures.

Various Committees, reports to Courts of inquiry and other agencies have recommended strengthening of safety enforcement machinery. Under Plan schemes of the 9th Plan titled "Strengthening of Mines Safety Enforcement Machinery" actions are being taken for creation of new posts.

The DGMS have norms of inspection for the inspecting officers. This is as high as 120 inspection days for Assistant Directors and Dy. Directors and 80, for Directors. These norms of inspection are existing in this Directorate for a long time. Most of the inspecting officers exceed the yearly norms of inspections.

[Ministry of Labour, OM No. H-11013/3/98-ISH.II]
[Ministry of Coal, OM No. 54012/3/98.CRC dated 22.3.99]

Status as on 8-2-2001

Same as above.

[Ministry of Coal, OM No. 54012/3/98.CRC dated 8.2.2001]

Comments of the Committee

(Please *See* Paragraph 17 of Chapter I of the Report)

Recommendation No. 18

The Committee are distressed to note that the Government has spent more money in the last 25 years (since Nationalisation of Coal Industry) on making studies, including one of $ 12 million on Jharia fire fighting project with the World Bank assistance, rather than pending on the actual problems of fire and subsidence in coal mines. The Committee take a strong note of the fact that although CMPDIL study in 1986 and subsequent Chari Committee Report in 1989, have suggested that no foreign expert or foreign technology for biological reclamation of abandoned coal mines be engaged and had recommended indigenous R&D work, the World Bank loan have been taken for Jharia fire fighting project and for Raniganj also. The Committee would like to know the reasons for not adhering to the recommendations of experts by the Government in this regard. The Committee also feel that utilisation of funds during the 8th five year plan and the provision of Rs. 79 crore during the 9th five year plan are not adequate taking into account the gravity of the problem. The Committee recommend that both long term and short term plans be drawn up. The areas facing imminent danger as identified by DGMS should be taken up on priority basis and eviction/rehabilitation measures be geared-up.

The World Bank Assisted Project (US $ 12 million) study was taken up during 1994-1997 and the objective of this project was basically to make a 'Diagnostic Study' of fires and for preparation of an Environmental Management Plan of JCF.

The World Bank Project did not relate to the technology for biological reclamation of abandoned mines in BCCL.

BCCL on its own is carrying out biological reclamation of degraded land and abandoned area since 1986 in association with State Forest Departments and scientific institutions. The work is being carried out in phases every year with its own resources.

For long term and short term plan a Master Plan for stabilisation, dealing with fire and subsidence problem and rehabilitation is currently under preparation by CMPDIL. Report has been finalised in respect of ECL and draft report completed for BCCL.

[Ministry of Coal, OM No. 54012/3/98.CRC dated 22.3.99]

Status as on 8-2-2001

A master plan for all unsafe areas in Jharia and Raniganj coalfields have been prepared identifying number of rehabilitation projects over a period of 15/20 years and the funds would be provided from CCDA for which CCDA Rules have been suitably amended. Based on success of the two *ad hoc* schemes mentioned earlier at Sl. No. 6 of Recommendation No. 17, further projects will be picked up from this Master Plan for implementation on priority basis after obtaining approval of the Competent Authority.

[Ministry of Coal, OM No. 54012/3/98.CRC dated 8.2.2001]

Recommendation No. 20

Loss of Coal due to Laxity on the part of management

The Committee note with dismay that the problem of mine fire has lent the nation a colossal loss of Rs. 1800 crore due to fire and 1.8 billion tonnes of coal worth about Rs. 40,000 crore from possible recover due to lack of technology and due to inefficiency in timely implementation of recommendations of various expert Committees. The money that is estimated by the Government to be required today, to control fire and subsidence, is Rs. 7500 crore. With the proposed increase in cess, by Rs. 15 per 100 metric tonne, the funds raised per year will be of the order of Rs. 450 crore. The Committee feel that the

damage caused to environment, landscape and human habitat as a result of coal mining operation should not be viewed as a regional problem and feel that there is an imperative need for resolving out the issue regarding financial constraint. The Committee recommend that the Government should identify the sources from where funds can be collected including imposition additional charges in the form of cess as proposed by the Government. The Committee suggest that sections 6&7 of Coal Mines (Conservation and Development) Act, 1974 be suitably amended for making provision for the additional cess which can be utilised under section 9 of the Act for coal conservation related activities. The Committee hope that the Government will at least now provide separate funds to executing agencies as recommended in the subsequent para 21 to avoid any possible national disaster.

In line with the recommendations of High Level Committee under the Chairmanship of Secretary (Coal), the CCDA rules, 1975 have been suitably amended to cover the rehabilitation and resettlement of persons from the declared unsafe areas.

Presently the role of excise duty under section-6 of Coal Mines (Conservation & Development) Act, 1974 is Rs. 3.50/t for the non-coking coal and Rs. 4.25/t for the coking coal despatched by the coal companies. There is a provision in the Act to enhance this to Rs. 10/t. Based on this rate the amount which would be available for rehabilitation/resettlement appears to be adequate during the initial period. However, when the funds requirement increases in subsequent years with the taking up of more schemes, the rate of excise duty to be levied on despatch of coal would be suitably enhanced.

[Ministry of Coal, OM No. 54012/3/98.CRC dated 22.3.99]

Status as on 8-2-2001

Same as above.

[Ministry of Coal, OM No. 54012/3/98.CRC dated 8.2.2001]

Recommendation No. 21

To implement the rehabilitation and reclamation measures, it has been argued before the Committee that the Coal Companies should not be burdened with this responsibility.

The Committee also feel that a separate Statutory authority/body need to be constituted.

The Committee recommend that the executing body with clearly defined roles, objectives and source of funds for time bound planning and implementing environmental protection and fire and subsidence control measures, reclamation and stabilisation of degraded lands, afforesation and rehabilitation of the affected people, be formed immediately. The executing body shall consist of representatives of the Central Government, CMRI, respective State Governments, Coal India Limited, environment experts, Directorate General Mines Safety, Central Mines, Planning and Design Institute Ltd., Geological Survey of India, Land use experts and people's representatives. The Committee would like to apprised of the action taken in this regard.

For fruitful implementation of the mitigation measures against subsidence and fire hazards, the High Level Committee recommended formation of Apex authority & sub-authorities for Bihar and West Bengal *i.e.* two separate executing agencies with separate funding.

For Raniganj coalfield, ECL has taken action for constitution of a Core Committee, Core Group and Village Committees. The details are as under:

(i) Constitution of Core Committee consisting of CMD, ECL and D.M. Burdwan.

(ii) Constitution of Core Group consisting of representatives of ECL/CMPDI and local administration for finalising the various issues like selection of sites, carrying out socio-economic surveys and finalisation of compensation packages and construction of houses for the unstable areas to be rehabilitated. This Group consisted of following:–

1. Addl. District Magistrate, Asansol.
2. Regional Director, RI-1, CMPDI, Asansol.

3. CGM (Finance), ECL

4. General Manager (Surface Construction), ECL

5. General Manager, JK Ropeways, ECL.

This core group was constituted by the Core Committee which in turn had been constituted as a result of the meeting held in the Chamber of Principal Secretary, Commerce & Industries Department, Govt. of West Bengal in June' 98.

(iii) The core Group prepare the Action Programme for implementation of the scheme and finalised it after discussion and approval of the Core Committee.

(iv) Core Group held a series of meetings involving respective BDOs, Sabhapatis & Gram Panchayat Pradhans in order to form the representatives Village Committees for each location to negotiate.

During the initial period of selection of the sites, carrying out socio-economic survey etc., DGMS has no role and therefore, not been nominated on these Committees/Group. However, during implementation, DGMS will be fully involved.

Executing Committee for implementation of resettlement of BCCL employees in endangered areas has been constituted by BCCL comprising members from BCCL, DGMS, CMRI, CMPDIL and State Govt. of Bihar is yet to nominate its representative members.

[Ministry of Coal, OM No. 54012/3/98.CRC dated 22.3.99]

Status as on 8-2-2001

Apex/Statutory authority to be constituted by Ministry of Coal.

For BCCL

BCCL has constituted an Executing Committee with the following constitution:

CMD, BCCL as Chairman

D(T) PP as member

CMRI representative as member

CMPDI representative as member

Representative of Govt. of Bihar as member

GM (Environment), BCCL as Member Secy.

Govt. of Bihar is yet to nominate its representative member.

The role of this Committee is

- To identify, formulate and implement the schemes relating to fire extinguishing and mitigation of subsidence problem.
- Rehabilitation of BCCL employees from endangered areas.
- For rehabilitation of non-BCCL people affected due to fire and subsidence, a separate committee has been formed with Commissioner, North Chotanagpur as Chairman and CMD, BCCL and Dy. Commissioner, Dhanbad as members.
- Govt. of Bihar has constituted a Sub-authority for implementation of the rehabilitation of non-BCCL persons as per the recommendations of the High Level Committee.

[Ministry of Coal, OM No. 54012/3/98.CRC dated 8.2.2001]

Recommendation No. 22

In view of the above mentioned observations, the Committee feel that from the very beginning of mining operations, the mine safety with effective results should be the concern of all Coal Companies. It needs a constant updating because the mine operations are unique, particularly the underground mines where one has to fight against nature. The Committee observe that although the problem of mine fire and subsidence is enormous in Jharia coalfields of BCCL and Raniganj coalfields of ECL, a closer safety mechanism and coordination with local authorities is required to be developed by all coal companies in the country to avoid recurrence of problems of Jharia, Raniganj and in any other coalfield. The Committee feel that the incident of Nariabodh village of Laxmanpur project of SECL where 2 persons were killed in police firing accrued due to lack the coordination between the management of SECL and the local peoples, for which the responsibility rests with the management. The Committee strongly urge that the Government should set-up executing/coordinating committees as recommended in para 21 above in all the coal producing States to deal with the problem of mine fire and subsidence and a perspective plan should be prepared to tackle these problems. The Committee would like to know the action taken in this regard within three months.

Details are as under:

West Bengal

For ensuring the mitigation measures against fire and subsidence and this rehabilitation the following arrangements have been made.

(i) Apex Monitoring Committee, chaired by Shri H B Ghosh, Ex-CMD, CMPDI and having as its members, Peoples' representatives and Officers of CMRI, CMPDI and ECL has been in existence to regularly meet and monitor the progress of schemes for Subsidence Control being implemented in ECL.

(ii) Separate, Nodal Agency under Directorate of Projects and Planning of Subsidiary Company has been established to process, implement and monitor the various schemes. The progress of implementation is regularly reviewed by Director (T) P & P & CMD.

(iii) Core Committee having CMD, ECL and District Magistrate, Burdwan as its members has been constituted to monitor and review the progress of the social mitigation scheme.

(iv) Core-Group having as its members representatives of local States Administration. ECL/CMPDI has been constituted to negotiate and implement the approved social mitigation scheme.

Bihar

The Govt. of Bihar has constituted a Committee vide Order No. BMOI-17/96/960/M Pat, dated 28.3.98 with the members as under:

(i) Commissioner, North Chotanagpur, Hazaribagh—Chairman

(ii) CMD, BCCL—Member

(iii) Dy. Commissioner, Dhanbad—Member

The Committee shall look after the construction of 3100 houses for rehabilitation of non-BCCL people.

Orissa, Madhya Pradesh, Uttar Pradesh and Maharashtra

For selected mines in these States environmental aspects dealing with mitigation of the adverse impact on environment caused by coal mining activities is being monitored through environment action plan for each of the projects. Periodical monitoring of the indicators of environmental quality is being carried out by agencies like CMRI and CMPDI and based on these further remedial measures are taken. Resettlement and rehabilitation action plan for the displaced persons is approved on yearly basis envisaging schemes for development of villages on the fringes of mine boundary (within 1 Km) where skill development, infrastructure development etc. is carried out.

Composition of Committees for the purpose in these States are as under:

Social Sector

1. Each of the Project-mine has one N.G.O. attached to it to assist the project authorities in implementation of IPDP's and RAP's.
2. For IPDP there are:

A. Village Working Group: Consisting of representatives of all communities of IPDP village (OBC, SC/ST, female etc.) who undertake the job of infrastructural development.

B. Community Development Council (for each project mine) consisting of

	Job
1. Gram Sarpanch/Mukhiya	
2. Bonga/Tribal Chief	1 Approval of yearly action plan along with budget.
3. School Teacher from the community	
4. B.D.O. from State Govt.	
5. CDD/R&R Officer (member secretary)	
6. One trade union leader (of largest union)	
7. N.G.O.'s representative	
8. CGM/GM of the area (Chairman)	

3. For RAP there are two committees

A. Coordination Committee	Job
1. CD and R+R officer-Member Secretary	1. Preparation of yearly action Plans, Quarterly Progress Report
2. BDO of equivalent	
3. NGO's representative	
4. Two PAP's (one male & one female)	2. Monitoring of compensation payment, Resettlement Activities, Rehabilitation Activities.
5. Host community Representative (if any)	

4. B. **Monitoring Committee.**

1. D(T) P&P or his nominee as Member Secretary	1. Approval of yearly action plan of each of project
2. District Collector or his nominee Representative of State Govt.	2. Internal monitoring 3. Grievance Redressal
3. Two PAP's (one from Panchayat & one Female)	
4. A person of high repute	

Environmental

State Pollution Control Board is sending its officials to check the results of monitoring of impact of pollution. They are having their own checks to ensure compliance with the various environmental standards by the project mines.

Environmental and Social Mitigation Projects

The Coal Sector Environmental and Social Mitigation Project covers 25 projects/mines of Coal India, the distribution of which is as follows:—

Name of State	Name of Subsidiary Companies	Name of Project/ Mines
Bihar	Central Coalfields Ltd.	East Parej KD Hesalong Rajrappa
Orissa	Mahanandi Coalfields Ltd.	Ananta Bharatpur Belpahar Jagannath Lakhanpur Samleswari
Madhya Pradesh and Uttar Pradesh	Northern Coalfields Ltd.	Bina (UP) Dudhichua (MP & UP) Jayant (MP) Jhingurda (MP) Nigahi (MP)
Madhya Pradesh	South Eastern Coalfields Ltd.	Bisrampur Dhanpuri Dipka Gevra Kusmunda Manickpur
Maharashtra	Western Coalfields Ltd.	Durgapur Nilgai Padmapur Sasti Umrer

The activities of ESMP are two fold *i.e.* Environmental and Social. The different aspects covered are:

Environmental

Environmental aspects of ESMP deals with mitigation of the adverse impact on environmental caused by coal mining activities. In the initial stage various studies have been undertaken to precisely know the likely impact and the methods to mitigate it. Environment Action Plan for each project mine has been prepared and is being executed. Periodical monitoring of the indicators of environmental quality is being carried out by agencies like CMRI and CMPDI and based on these further remedial measures are taken. These primarily deal with:

Pollution of air due to different dust generation activities like drilling, blasting, loading, unloading and transport of coal

Pollution of water caused by discharge of effluents from workshop, mine water and domestic sewage system

Noise pollution due to mine activities.

Measures taken relate to (a) dust suppression arrangements; (b) setting up mine discharge treatment plant, workshop effluent treatment plant and domestic effluent treatment plant; (c) large scale plantation and aforestation; (d) provision of ear muffs and ear plugs.

Another major activity relates to overburden dump reclamation action plan and ash disposal study presently being undertaken by which ash produced by power plants could be used for filling up the voids created by opencast mines after extraction of coal. We also have emergency response plan prepare for each mine which are operational.

Social Sector

The purpose here is to reduce the adverse impact of displacement of persons caused due to acquisition of land for coal mining purposes. Coal India its own resettlement and rehabilitation policy which is rigidly enforced. Besides we have will devised Resettlement and Rehabilitation Action Plan (RAP) for displaced persons which is approved every year by the Bank and implemented in toto. It also envisages Schemes for development of villages on the friuges of mines boundary (within 1 km.) where skill development, infrastructure development etc. is carried out.

[Ministry of Coal, OM No. 54012/3/98.CRC, dated 22.3.99]

Status as on 8-2-2001

Same as above.

[Ministry of Coal, OM No. 54012/3/98.CRC, dated 8.2.2001]

CHAPTER III

RECOMMENDATIONS/OBSERVATIONS WHICH THE COMMITTEE DO NOT DESIRE TO PURSUE IN VIEW OF THE GOVERNMENT'S REPLIES

Recommendation No. 4

Based on the categorisation done by CMRI on the dwellings, influenced by working down below, in four categories, the Committee find that the dwellings identified under category IV are unstable because of the mine fire or interaction activities. The dwellings under category III are less stable as on date but could be in danger shortly in case preventive measures are not adopted. 30 full colonies and 5 partial colonies are stated to be required to be evicted, covering nearly 8,413 houses in the areas of Kustore, Lodna, Bastacol, Eastern Jharia and Putkibalihari. However, BCCL has stated that it had carried out a survey based on the CMRI Report and identified 22,100 houses to be critically endangered due to fire and subsidence, which require immediate vacation. The Committee desire that it should be apprised of the reasons of such vast difference in the figure of CMRI study and the study of BCCL which is based thereon.

There is no major variation in the figures of endangered houses indicated by the CMRI and BCCL. CMRI had done the study in two phases. In the first phase the study identified 8,413 endangered houses in 6 areas of BCCL requiring shifting to safer areas. In its Phase II study, CMRI identified another 14,000 houses in the balance areas of BCCL, which are not considered in the high risk zone. Thus the total number of endangered houses as per CMRI study are 22,413 which is about 300 houses more than the figure of 22,100 houses as per study conducted by BCCL.

[Ministry of Coal, OM No. 54012/3/98.CRC, dated 22.3.99]

Status as on 8-2-2001

There is no major variation in the figures of endangered houses indicated by CMRI and BCCL. The total figure of endangered houses, as per CMRI study is 22,413 whereas the corresponding figure of BCCL is 22,100 houses.

[Ministry of Coal, OM No. 54012/3/98.CRC, dated 8.2.2001]

Recommendation No. 8

The Committee are dismayed to note that there have been 59 casualties during the last 4 years (1993-97) due to incidents of spontaneous heating, subsidence and fire in coal mines of Coal India Limited. One more such incident has happened in Central Coalfield Ltd. in October, 1997 where 5 persons have been killed. The Standing Committee on Energy (Tenth Lok Sabha) in their 10th Report had taken a strong note of the incident at New Kenda colliery on 25th January, 1994 and desired to know the causes of the accident. The Committee have been apprised that the Court of Enquiry has pointed out certain discrepancies and has not fixed the responsibility in this regard. The Committee feel that the Court of Enquiry has rightly pointed out certain discrepancies and rule out the fire due to short-circuit. The Government's inaction indicate the emphasis that has been laid on safety-measures. The Committee are further distressed to note that in case of Churcha fire, although, the Internal Safety Organisation (ISO) has held Area Officer, Agent, manager, Ventilation Officer, Safety Officer, Colliery Engineer and Senior Overman responsible for the accident but in the departmental enquiry all have been exonerated. The Secretary, Ministry of Coal was candid enough to inform the Committee that he himself was not satisfied with decision and would reopen the case on the basis of ISO Enquiry. The Committee desire that immediate action be taken on Enquiry Reports as regard to New Kenda colliery and reopen the Churcha fire case on the basis of ISO Enquiry. The Committee would like to be apprised of the action taken in the matter at the earliest.

The fatalities due to fire during 1993-97 have unfortunately been very high on account of 55 casualties in New Kenda disaster of 1994. Balance 4 casualties are on account of fire accident at Churcha claiming three lives and fire at Jhingurda claiming one.

Based on the observations of the report of the Court of Inquiry disciplinary action has been initiated against the Agent and Manager of New Kenda colliery.

As far as re-opening Churcha fire case, DGMS lodged two different cases in the court of Judicial Magistrate, against S/Shri S.S. Dey, Electrical Supervisor, A.K. Sharma, Electrical Supervisor, P. Dutta, Colliery Engineer, R.K. Singh, Executive Engineer, N. Das Colliery Manager and T. Kumar, Agent - Ref. case No. 47/94 and against S/Shri T. Kumar, Agent, N. Das, Colliery Manager, RR Kumar, Asstt. Colliery Manager, D. Vyas, Safety Officer, B.P. Mishra, Ventilation officer, BBR Narsingham, Sr. Overman and B. Sharma, Mining Sirdar - Ref. case No. 48/94.

Judgement of the court in both the cases are as under:

Case No. 47/94: The charges framed could not be established and the case was disposed off by First Class Magistrate on 18.5.95/3.1.1996.

Case No. 48/94: The charges could not be established and the case was disposed off by Judicial Magistrate First Class, Baikunthpur (MP) on 3.1.1996.

Based on ISO enquiry charge-sheets were issued to persons held responsible who got exonerated after the enquiry.

Since both the departmental enquiry and the court had exonerated the people involved, there is hardly any scope to re-open the case.

[Ministry of Coal OM No. 54012/3/98.CRC dated 22.3.99]

Status as on 8-2-2001

Same as above

[Ministry of Coal OM No. 54012/3/98.CRC dated 8.2.2001]

Recommendation No. 12

The Committee observe that Coal Mining and Research Institute (CMRI) carried out a successful experiment to extract coal adjoining old headquarters of Bharat Coking Coal Limited with the assistance of Ministry of Coal & Coal Commission Development Council. A study was also conducted for Jharia town by CMRI. On the basis of study of CMRI, Bharat Coking Coal Limited submitted a Report to Director General Mine Safety and got permission for mining. Directorate General Mines Safety gave permission to Bharat Coking Coal Limited to carry out mining below Jharia town and subsidence took place in the thickly inhabitated area of 'Sadhan Kutir'.

The Committee find a serious coordination lapse on the part of the agencies carrying out the study work and implementing agencies. The Committee are not satisfied with the reply of Director (Actg.), Coal Mining and Research Institute that since he was not associated with the project at the implementation stage, he should not be held responsible. The Committee feel that the project report should invariably include clauses regarding safety measures to be adopted and regular inspection by the agency who has carried out the study before handing it over to the coal companies for implementation. Giving away a technology without proper guidelines in itself is a serious lacuna in the project report and proper care in this regard should be taken in future.

The Committee also recommend that the coal companies should also involve the agencies who have carried out the detailed experiments at the time of implementation of projects. Regarding misrepresentation of facts where it appeared in the media that Coal Mining and Research Institute can make Jharia town stable at the cost of Rs. 36 lakh only, the Committee feel that immediate steps should have been taken to rectify the statements reported in the Press to avoid occurrence of restlessness among inhabitants in the Coal bearing areas. The Committee would like to know the steps/guidelines initiated by the Government in this regard.

Project Reports include wherever any specific safety measures like diversion of water body, construction of dams, proximity to old working etc. are to be taken and are based on established technologies.

A new scientific technique in the initial stage is under observation by the concerned agency and the coal company and only after its efficacy is established, the technique is extended for actual implementation in other mines. It is not feasible to associate CMRI or any other scientific body at the project formulation stage.

CMRI had stated that regarding the mis-presentation of the fact that CMRI can make Jharia town stable at the cost of Rs. 36 lakhs only, steps have been taken to avoid recurrence of such confusing statement. Only published papers/reports are being passed on to the press as a reference material in case of such enquiries.

[Ministry of Coal OM No. 54012/3/98.CRC dated 22.3.99]

Status as on 8-2-2001:

It is the practice in BCCL to involve the concerned agencies in implementation of all the projects of scientific nature.

As recommended, a note is being further taken to include clauses in the P.R. regarding safety measures to be adopted and regular inspections by the agencies carrying out the study.

Regarding stabilisation of the underground workings below the part of Jharia town, the impression is sought to be corrected about the job committed to be carried by the CMRI.

Based on the scientific study carried out by CMRI, Dhanbad, at a cost of Rs. 3 lakhs regarding the stability status of the part of the Jharia town, BCCL has awarded the entire work of stabilisation of underground workings below Bata More, Jharia to the CMRI on turn-key basis at a cost of Rs. 30 lakhs.

An MOU has also been signed with CMRI in this regard.

Work has been completed by the CMRI.

[Ministry of Coal OM No. 54012/3/98.CRC dated 8.2.2001]

CHAPTER IV

RECOMMENDATIONS/OBSERVATIONS IN RESPECT OF WHICH REPLIES OF THE GOVERNMENT HAVE NOT BEEN ACCEPTED BY THE COMMITTEE

Recommendation (Sl. No. 5)

The Committee note that the two options available to avoid recurrence of existing problem due to mine fire and subsidence are (a) to avoid all coal extraction from places where there are habitations on the surface and (b) to prevent development of new habitations on coal bearing lands. The first one would involve wastage of huge national assets and the second one would be a sensitive issue. The Committee feel that efforts should be made to extract coal to the maximum extent possible after the inhabitants are resettled on non-coal bearing areas and paid due compensation. The Committee have been informed that there is a West Bengal Government Act regarding Restriction on Construction in Unsafe Area enacted in 1979. However, There is no such legal provisions enacted by the State Government of Bihar. It is only now that the State Government of Bihar is stated to be contemplating to enact a similar law. The Committee are constrained to note that the Government have failed to persuade all mine/mineral producing States to have a uniform / similar law protecting mine/ mineral bearing areas from habitation. The Committee hope that the Government will atleast now act to ensure a uniform law in this regard.

Presently no coal is being extracted below those habitations, declared unsafe by DGMS.

As a policy it has been decided by the company that no new housing construction shall be allowed on the coal bearing areas in BCCL.

The recommendations of the High Level Committee of which representative of Govt. of Bihar was also a member, lays down the following recommendations:

Clause 6(i): "Where possible settlements of all unstable areas should be shifted to non-coal bearing zones. For this purpose, Satellite townships are the best long term solution against subsidence hazards in the coalfields."

Clause 6(ii): "There should be total ban on any new construction over declared unsafe areas in the coalfield. Govt. of Bihar should also enact a suitable legislation inline with the one already existing in W. Bengal preventing construction over unsafe areas." The above recommendations accepted by the Government have been circulated to all concerned agencies including Govt. of Bihar for compliance.

Mineral Area Development Authority (MADA), Dhanbad has issued a notification banning all construction in the unsafe areas of Jharia coalfield.

The Govt. of Bihar is yet to enact a legislation on the lines of that enacted by the Govt. of West Bengal as per the recommendation of the High Level Committee mentioned at clause 6(ii) above.

New houses in BCCL are now being constructed on non-coal bearing areas. The houses which are endangered shall be shifted/ resettled, and the coal reserve freed to that extent shall be mined after dealing with fires, if any.

[Ministry of Coal OM No. 54012/3/98.CRC dated 22.3.99]

Status as on 8-2-2001:

The State Govt. of Bihar have notified the constitution of a High Level Committee on 22-8-2000 under the Chairmanship of Chief Secretary, Govt. of Bihar for rehabilitation of non-BCCL people.

[Ministry of Coal OM No. 54012/3/98.CRC dated 8.2.2001]

Comments of the Committee

(Please *See* Paragraph 11 of Chapter I of the Report)

Recommendation No. 7

The Committee have been informed that according to one estimate. Jharia coalfield has 4,343 subsided pockets and nearly 4000 hectares of land had subsided by over 0.6 metre to 10 metre before 1998. The Committee wonder that with scarcity of sand and economic consideration, depillaring with stowing, for eco-friendly underground mining, are stated to be the reasons for decrease in stowing work. The Committee urge that immediate steps should be taken to remove the shortcomings in fire extinguishing programme. The Committee also do not accept the Government's view that there is lack of availability of sand. The Committee recommend that all the past and present irregularities in stowing operation be investigated by Chief Vigilance Commissioner and responsibility be fixed against the officials found guilty in this regard. The Committee would like to apprised of the action taken in this regard within the period of three months.

In para 2.14 on page 9 of the report, it is mentioned that the Committee had been apprised by CMRI that Jharia had 4343 subsided pockets and 4000 hectares of land subsided by 0.6 m to 1m before 1988. Director, CMRI was approached by CMD, BCCL to give the details of the above cases of subsidence to which he replied that these figures were quoted from published documents of CMPDIL. With this information CMPDIL was approached by CMD, BCCL as well as by PAD, CIL and the reply received is as under:

Quote-

"Regarding the estimation of subsidence pockets and affected areas in Jharia coalfield, Central Mining research Institute (CMRI) has based their figures on excerpts of paper authored by Sri R. M. Prasad titled "An Appraisal of subsidence problems in Jharia coalfields". Sri Prasad who was the then executive in R-II, CMPDI, Dhanbad presented this paper in the international symposium on land subsidence, held in December' 89 in CMRI.

The number of subsidence pockets in Jharia coalfield as mentioned in the paper of Sri R. M. Prasad are 442 affecting some 3497 ha. of land subsided by 0.18 to 15 m. Sri Prasad has based these figures on the document titled "Environmental restoration of mined out area-broad estimates" prepared by CMPDI in December' 86.

The report was prepared by CMPDI and gave only broad estimates, the figures of subsided pockets in Jharia coalfields are based on the data available *vide* table 33, page 159 of the document.

Relevant portion of the CMPDI document i.e. page 159 is given below:

Sl.No.	Name of Area	Area No.	No. of subsidence spots	Area of Subsidence (Ha)	Av. depth of subsidence throughs(m)	Volume (Mill. cu.m.)
1	2	3	4	5	6	7
1.	Moonidih	CV	15.00	98.44	0.18-0.53	0.31
2.	Bastacolla	IX	24.00	165.80	0.5-6.0	3.30
3.	Bhowrah	XI	18.00	210.08	2.0-4.0	6.45

1	2	3	4	5	6	7
4.	Barora	I	22.00	253.87	0.5-3.0	3.69
5.	Mohuda	II	10.00	175.09	0.2-0.6	1.43
6.	Sijua	V	54.00	505.70	0.25-9.0	10.52
7.	Kustore	VIII	59.00	287.26	1-6.5	7.86
8.	Gobindpur	III	58.00	411.63	0.3-6.1	9.67
9.	Block-II OCP		8.00	16.62	1.52-2.44	0.35
10.	Sudamdih	CV	1.00	64.00	0.50	0.32
11.	Bhagaband	VII	13.00	38.84	0.4-5.0	0.71
12.	Lodna	X	39.00	626.46	1.0-15.0	28.12
13.	Pootkee Balihari		4.00	11.16	1.5-3.0	0.27
14.	Chanch Victoria	XII	21.00	13.97	0.3-2.8	0.32
15.	Kusunda	VI	41.00	425.27	1.6-9.00	18.79
16.	Katras	IV	55.00	192.81	0.9-12.0	7.40
	Total BCCL		442.00	3497.05	0.18-15.0	99.51

However, it must be understood that the estimates were only broad estimates as assessed in 1986. These might have undergone lot of changes due to mining and reclamation operations taken up in the coalfields after 1986."

Unquote—

As regards past and present irregularities in stowing operations, investigation report from CVC is awaited.

[Ministry of Coal OM No. 54012/3/98.CRC dated 22.3.99]

Status as on 8-2-2001:

It is stated, that in order to resolve the issue regarding compilation of report on stowing operations. CVC arranged a meeting between Ministry of Labour and Ministry of Coal. It was decided that the DGMS and MOL will compile the Inspection Reports and forward to Ministry of Coal for onward transmission to CVC for consideration and advice. In view of this decision, Ministry of Labour had forwarded a voluminious report on stowing compiled by DGMS for our examination and comments and onward communication to CVC. It is submitted, in this connection, that the report prepared by DGMS required thorough examination by experts and thereafter comments were to be forwarded to CVC. Shri A.N. Mukhopadhyay, ex-DMS, DGMS was appointed by this Ministry to examine the Inspection Reports. The Report of Shri Mukhopadhyay was sent to Vigilance Section. CVC requested for confirmation regarding aspect of irregularity being examined and persons held responsible for the same. It is stated, in this connection, that in the report no mention has been made about any irregularity and also fixation of responsibility for the same. The report states that violation in sand stowing detected were later rectified. The report also states that DGMS is the authority in the matter and they are taking necessary action. The report is of the nature which is silent on the fixation of responsibility on any individual, therefore it is not possible categorically to state/issue confirmation as requested by Vigilance Commission.

[Ministry of Coal OM No. 54012/3/98.CRC dated 8.2.2001]

Comments of the Committee

(Please *See* Paragraph 14 of Chapter I of the Report)

Recommendation No. 11

The Committee are informed that in some areas houses have been affected due to the blasting operations undertaken by Coal Companies as per specifications given by DGMS.

But, the Committee note that the blasting operations carried out by the Coal companies are not recorded to avoid detection that these are not as per DGMS specifications.

The Committee would like the Ministry of Coal to ensure that blasting operations be recorded with the technique available and the coal companies should not be allowed to compromise the safety of people and dwellings in coal mining areas.

The Committee are constrained to learn that the Directorate General, Mines Safety (DGMS) has not issued strait instructions to coal companies to ensure that different blasting operations be recorded, if the technique for the same is available. The Committee will await the action taken by DGMS to ensure the same in future.

Comments of the Ministry of Labour (DGMS)

It appears that the Committee has probably not been correctly informed in this matter. It is a part of the established procedure that the mine management proposes a detail system of blasting in open cast mines where there are permanent structures within the danger zone. Such proposals are often accompanied by scientific reports of safe charge, safe pattern etc. of the blast. Some times experimental blasts are conducted before finalisation of the permission. Thus the "specification" of DGMS is combined effort of the mining companies, the scientific bodies where such report is obtained from them and finally the DGMS. In this connection it may be added that there may be no case or record where the blast design approved by DGMS have been found to be faulty or incorrect. Failure takes place exclusively because of non-compliance of the condition of approval/permission.

The standard conditions of permission for such blasting provide that records of the each blast should be maintained. DGMS has also issued specific technical circulars to the Industry to ensure protection of surface features due to blasting.

[Ministry of Labour OM No. H-11013/3/98-ISH.II]

[Ministry of Coal OM No. 54012/3/98.CRC dated 22.3.99]

Status as on 8.2.2001:

Same as above.

[Ministry of Coal OM No. 54012/3/98.CRC dated 8.2.2001]

Comments of the Committee

(Please *See* Paragraph 24 of Chapter I of the Report)

Recommendation No. 16

It has been brought to the notice of the Committee that although the Government has been providing funds for fire and subsidence control measures, Section 7(1) of the Coal Mines (Nationalisation) Act, 1973 provide that every liability of the owner, agent, manager or managing contractor of a coal mine in respect of any period prior to the appointed day, shall be the liability of such owner, agent, manager or managing contractor as the case may be and shall be enforceable against him and not against the Central Government or the Government company. The Company have been informed that due to such provision, there is delay in clearing funds by Ministry of Finance. The Committee feel that the Government/Coal India Limited cannot absolve itself from the responsibility of stabilisation/reclamation of land under the leasehold area of its coal companies even the existing provisions do not cover these two eventualities. The Committee are strongly of the opinion that the Govt. should ensure timely release of funds for the purpose and if need be, necessary amendment may be carried out in the Coal Mines (Nationalisation) Act, 1973 in this regard.

The High Level Committee under the Chairmanship of Secretary (Coal) had gone into the aspects of dealing with subsidence and fire control measures in Jharia and Raniganj coalfield in a comprehensive manner. The Committee, *Inter-alia*, recommended to prepare an action plan and deal with such problems in a phased manner.

The requirement of funds which would be of the order of Rs. 4070 crores would come from the excise duty on despatch of coal under Coal Conservation and Development Act, 1974 in a phased manner over a period of 15 to 20 years. The CCDA rules have been suitably amended to cover the rehabilitation and resettlement of the persons for the declared unsafe areas.

In line with the recommendation No. VIII of the High Level Committee one scheme each by ECL & BCCL for shifting of the population from the unsafe areas has been taken up without waiting for the positioning of the institutional arrangement. These schemes for ECL & BCCL costs Rs. 32.52 crores and Rs. 33.88 crores respectively and have been sanctioned by the Expenditure Finance Committee in March, 98 for implementation in phases and agreed for release of Rs. 1 crore, each only in the initial stage.

Further release of fund was subject to satisfactory utilisation of fund and review of the physical progress by a Committee particularly after assessing the willingness of the people to shift to new sites and the extent of cooperation by the State Government.

[Ministry of Coal OM No. 54012/3/98.CRC dated 22.3.99]

Status as on 8.2.2001:

A demonstration scheme for shifting of people from the most endangered areas for rehabilitation of 4100 houses (1500 BCCL and 3100 non-BCCL) at a cost of Rs. 33.88 crores is under implementation.

BCCL has completed construction of 32 houses for BCCL employees and 20 families have been shifted. Further 48 houses have also been completed. Revised cost estimates of Rs. 58.78 crores is under final approval. Houses have not been constructed for non-BCCL employees by the State Govt. Sub-Authority has been constituted recently by Government of Bihar.

Further, 8 number of schemes–4 dealing with fire control and 4 dealing with subsidence control have been sanctioned by the Govt. for a total investment of Rs. 16.18 crores. These schemes have gestation period ranging from 1 year to 6 years. The schemes are under active implementation and more than Rs. 9 crores have been spent till date. The status is as follows:

Fire Control Projects

(i) Alkusa: Drilling, sand flushing and filling/blanketing is in progress

(ii) Rajapur: Sand flushing, filling/blanketing mutti transporting is in progress

(iii) Lodna: Sand flushing, filling/blanketing mutti transporting is in progress

(iv) Industry: Drilling, sand flushing, shifting/demolition of houses is in progress

Stabilisation projects

(i) East Bhagatdih: Completed in Dec. '99

(ii) Kari Jore (Kusunda-Industry boundary): Completed in June 1999

(iii) Joyrampur: Drilling, sand flushing, grouting is in progress

(iv) Kusunda Yard: Stowing in XI seam completed, X seam is in progress.

One more scheme relating to stabilisation of UG workings below Bata More of Jharia has been completed, through CMRI, Dhanbad on a turn-key basis, at a cost of Rs. 30 lakhs.

Though a scheme for rehabilitation of four unstable locations in ECL have been approved by MOC with capital cost of Rs. 32.52 crores, but little progress could be made due to unwillingness and non-cooperation of affected people who want to get rehabilitated within 1 Km of their present sites, which is not feasible. Base line survey has been completed and village level Committees have been formed. No expenditure could be made so far.

[Ministry of Coal OM No. 54012/3/98.CRC dated 8.2.2001]

Comments of the Committee

(Please *See* Paragraph 37, 38 and 39 of Chapter I of the Report)

Recommendation No. 17

Report of various Committees and action taken thereon

The various Committees appointed from time to time to identify the causes of fire and subsidence problem in coalfields have collected data regarding abandoned quarries, fire and subsided areas. The Central Mines, Planning and Design Institute Limited (CMPDIL) identified 1119 disused mines/subsidence area in 1986 and suggested a provision of Rs. 1240.74 crore for reclamation of abandoned mines. The Government constituted an expert Committee under Shri K.S.R. Chari as Chairman in 1988 to examine the document prepared by CMPDIL and in 1989, the expert Committee submitted a comprehensive report to the Government which was not formally accepted by the Government. The Committee are not satisfied the way the Government is handling the problem by setting up committee after committee and the recommendations made by these committees have not been implemented wholeheartedly. The Committee note with dismay that though enough material and data have been taken to effectively control these fires. It is high time that the Government should act more seriously and speedily.

The studies made by various committees and their findings have been taken into consideration by the High Powered Committee constituted by Govt. of India with Secretary (Coal) as its Chairman, and representatives of Ministry of Labour (DGMS), Planning Commission, Govt. of Bihar, Govt. of West Bengal and coal companies. This High Level Committee has dealt with the problem of fire & subsidence in Jharia coalfield and Raniganj coalfield in a comprehensive manner. The recommendations of this High Level Committee constituted under the Chairmanship of Secretary (Coal) have been accepted by the Govt. and the same have been communicated to all agencies for implementation.

The action taken on the recommendations are as follows:

1. Civil authorities and the coal companies are taking steps not to allow construction on Coal Bearing Areas.

2. Mineral Area Development Authority (MADA), Dhanbad have issued a notification banning all constructions in the unsafe areas of Jharia coalfields.

3. The Govt. of Bihar is yet to enact a legislation on the line of that enacted by the Govt. of West Bengal.

4. Four major schemes for environmental measures have been sanctioned in BCCL for dealing with fire and subsidence at (a) Lodna Colliery (b) Rajapur/ South Jharia Colliery (c) Alkusa Colliery and (d) Industry Colliery. After implementation of these schemes, it will result in control of fire and subsidence at the above sites. It will reduce need of rehabilitation from endangered fire areas.

5. (a) For the restoration of abandoned coal mines in ECL, a scheme with capital cost of Rs. 8.7 crores, and (b) for the reclamation of mined out areas in CCL, a scheme with capital cost of Rs. 3.92 crores have been sanctioned. These schemes will lead to ecological restoration and reclamation of ambient environment in these areas in ECL & CCL.

6. (a) Scheme for rehabilitation of 4 unstable localities in ECL at an estimated cost of Rs. 32.52 crores, and (b) Scheme for shifting of people from endangered areas of BCCL at a cost of Rs. 33.88 crores have been sanctioned in May'98.

7. The Expenditure Finance Committee at its meeting held on 26.3.98 approved the above two schemes for implementation in phases and agreed for release of Rs. 1 crore, each, only in the initial stage for implementation of these schemes. Further release of fund was subject to satisfactory utilisation of fund and review of the physical progress by a Committee particularly after assessing the willingness of the people to shift to new sites and the extent of cooperation by the State Government.

Based on the report of High Level Committee, Master Plan for Subsidence and Fire Problems in Jharia and Raniganj coalfields has been prepared by ECL and BCCL with the technical assistance of CMPDI. Based on the prioritisation in the Master Plan, further schemes for dealing with fire and subsidence prone areas including shifting of affected population from the unsafe areas will be prepared and implemented in a phased manner.

In compliance with the recommendation of the High Level Committee two *ad-hoc* schemes one for ECL and one for BCCL as mentioned at Sl. No. 6 above have been sanctioned. Details for each of these two schemes including constraints being faced are given below:

ECL:

(a) Initial steps for implementation of the approved "Scheme for rehabilitation of four unstable localities in ECL" for a capital outlay of Rs. 32.52 crore have been taken. These steps are:—

(i) Constitution of Core Committee consisting of CMD, ECL and D.M., Burdwan.

(ii) Constitution of Core Group consisting of representatives of ECL/CMPDI and local administration for finalising the various issues like selection of sites, carrying out socio-economic surveys and finalisation of compensation packages and construction of houses for the four unstable areas to be rehabilitated. This Group consisted of following:—

1. Addl. District Magistrate, Asansol
2. Regional Director, RI-1, CMPDI, Asansol
3. CGM (Finance), ECL

4. General Manager (Surface Construction), ECL
5. General Manager, J K Ropeways, ECL

This core group was constituted by the Core Committee which in turn had been constituted as a result of the meeting held in the chamber of Principal Secretary, Commerce & Industries Department, Govt. of West Bengal in June' 98.

(b) The Core Group prepared the Action Programme for implementation of the scheme and finalised it after discussions and approval of the Core Committee in July' 98.

(c) As per the finalised schedule of activities, Core Group held a series of meetings involving respective BDOs, Sabhapatis & Gram Panchayat Pradhans in order to form the representative village committees for each location to negotiate. There have been numerous difficulties due to various reasons to sort this problem out. Such Committees could ultimately be constituted only at three locations, namely, Refugee Bastee (Bangal Para), Samdi (Phase-I) (Muchipara) & Kenda village. Such a committee has not been constituted for Harishpur village even till date.

(d) The Core Group made efforts to convince the village committees to co-operate for taking up socio-economic survey. However, headway could be made initially only at two places, namely Samdi (Phase-I) (Muchipara) & Refugee Bastee (Bangal Para) where socio-economic survey was completed by second week of October'98. Later on, after lot of persuation, this could be started for Kenda village only in the month of January'99 and is yet to be completed.

(e) A number of rehabilitation sites on non-coal bearing land have been suggested to the village committees of Refugee Bastee (Bangal Para) and Samdi (Phase-I) (Muchipara). These locations had been discussed in the meetings held with them. However, their acceptance has not been forthcoming. The villagers wished to be provided the rehabilitation sites within 1/2 to 1 km of the unstable areas. Such sites being on coal bearing land, Core Group as well as Core Committee have not been in favour of acceptance of such demands.

(f) The village committee of the fourth village, namely Harishpur village has put forward a number of demands including employment to the families to be rehabilitated and acquisition (by the Company) of the agricultural land belonging to the villagers to be rehabilitated. The village committee members have indicated that unless their demands are considered, no further discussion on the subject is necessary.

B.C.C.L. :

For shifting of people from the most endangered areas the demonstration Project provide for rehabilitation of 4100 houses (1500 BCCL & 3100 non-BCCL) at a cost of Rs. 33.88 crores. BCCL has started the construction of houses for BCCL employees but construction of houses for non-BCCL people for which BCCL has already provided land could not proceed further because houses of Indira Vikas type originally envisaged is not acceptable to the evictees.

Revised cost estimates have been sent to the Govt. for sanction.

Executive Committee for implementation of resettlement of BCCL employees in endangered areas has been constituted by BCCL comprising of Members from BCCL, DGMS, CMRI, CMPDIL and State Govt. of Bihar is yet to nominate its representative members.

[Ministry of Coal, OM No. 54012/3/98/CRC dated 22.3.99]

Status upto 31.12.2000

1. Lodna Colliery—23,000 Cu.m. of stowing and approx. 10,000 Cu.m. of blanketing has been done.

2. Rajapur/South Jharia Colliery—16,000 Cu.m. of stowing and approx. 8000 Cu.m. of blanketing has been done.

3. Alkusa Colliery—5,500 Cu.m. of stowing and approx. 10,000 Cu.m. of blanketing has been done.

4. Industry Colliery—29,800 Cu.m. of stowing has been done and 109 houses have been vacated and rehabilitated.

The biological reclamation of an area of 888 hectare consisting of 380 hectare of OCP, 458 hectare of OB dumps and 50 hectare of fire area has been taken up and is under progress.

BCCL has completed construction of 32 houses for BCCL employees and 20 families have been shifted. Further 48 houses have also been completed.

Rs. 1 crore released in the initial stage has been utilised towards part payment of bills for 80 houses completed so far.

Houses have not been constructed for non-BCCL employees by State Govt. Sub Authority has been recently constituted by Bihar Govt. to take necessary action.

E.C.L.

For restoration of abandoned coal mines in ECL, a scheme with capital cost of Rs. 8.7 crores has been sanctioned. Under the scheme a total of 891 Ha. area was to be reclaimed, against which area already reclaimed so far is 873.5 Ha.

Though scheme for rehabilitation of four unstable locations at an estimated cost of Rs. 32.52 crores have been sanctioned by MOC, little progress could be achieved due to indifferent attitude of the people to be rehabilitated.

Chief Executive, ADDA, has been appointed as a Member of the Core Group.

A number of rehabilitation sites on non-coal bearing land have been suggested to the Village Committee of Refugee Basti (Bangalpara) who agreed to be rehabilitated near Govindpur village at Pandaveswar, but the proposed site/land could not be surveyed even after several attempts because of resistance from villagers of Govindpur.

[Ministry of Coal, OM No. 54012/3/98/CRC dated 8.2.2001]

Comments of the Committee

(Please *See* Paragraphs 37, 38 and 39 of Chapter I of the Report)

Recommendation No. 19

The Committee are constrained to note the laxity on the part of High Power Committee on mine fire and subsidence as constituted by the Government with Secretary, Ministry of Coal as Chairman which was to submit its report by 30th June, 1997 but submitted in report only in December, 1997. The Committee feel that a Master Plan for stabilisation of Jharia and Raniganj coalfields be prepared immediately and desire the Government to act immediately to provide necessary funds for the areas which require immediate evacuation as per DGMS recommendations. The Committee would also like to know the steps taken by the Government to implement the recommendations of the High Power Committee.

For long term and short term plan, Master Plan for stabilisation, dealing with fire and subsidence problem and rehabilitation is currently under preparation by CMPDIL. Report has been finalised in respect of ECL and draft report completed for BCCL.

The steps taken to implement the recommendations of the High Level Committee are as under:—

All new constructions in BCCL are made on non-coal bearing land.

Mineral Area Development Authority (MADA) has banned construction of new houses in unsafe areas.

Enactment of legislation to ban new constructions by Govt. of Bihar is awaited. BCCL has written a letter to Govt. of Bihar in this regard.

Executing Committee for implementation of resettlement of BCCL employees in endangered areas has been constituted by BCCL comprising of Members of BCCL, DGMS, CMRI, CMPDIL and State Govt. Govt. of Bihar is yet to nominate its representative members.

Further, 8 projects for fire/subsidence control at an estimated cost of Rs. 16.18 crores sanctioned by MOC are under implementation.

Based on the scientific study carried out by the Central Mining Research Institute, Dhanbad regarding the stability status of the part of the Jharia town; BCCL has awarded the entire work of stabilisation of underground workings below Bata More, Jharia to the CMRI on turn-key basis at a total cost of Rs. Thirty lakhs (Rs. 30.00 lakhs).

For shifting of people from the most endangered areas, a demonstration project for rehabilitation of 4100 houses (1500 BCCL & 3100 non-BCCL) at a cost of Rs. 33.88 crores is under implementation. Revised cost estimate is under preparation.

For rehabilitation of non-BCCL houses Govt. of Bihar has constituted a committee with the following members:—

Commissioner, North Chotanagpur as Chairman

CMD, BCCL as member

DC, Dhanbad as covnenor/member

[Ministry of Coal, OM No. 54012/3/98/CRC dated 22.3.99]

Status as on 8.2.2001:

A master plan for all unsafe areas in Jharia and Raniganj coalfields have been prepared identifying number of rehabilitation projects over a period of 15/20 years and the funds would be provided from CCDA for which CCDA Rules have been suitably amended. Based on success of the two adhoc schemes mentioned earlier, further projects will be picked up from this Master Plan for implementation on priority basis after obtaining approval of the Competent Authority.

[Ministry of Coal, OM No. 54012/3/98/CRC dated 8.2.2001]

Comments of the Committee

(Please *See* Paragraphs 37, 38 and 39 of Chapter I of the Report)

CHAPTER V

RECOMMENDATIONS/OBSERVATIONS IN RESPECT OF WHICH FINAL REPLIES OF THE GOVERNMENT ARE STILL AWAITED

Recommendation No. 10

The Committee also find that during the last 5 years. Directorate General Mines Safety (DGMS) has launched 138 prosecutions. Out of these, 84 prosecutions are on account of accidents resulting due to violation of safety norms.

The Committee take a serious note of violation of safety norms by the Coal Companies and desire to know the action taken by the Government against these violations apart from prosecutions launched by DGMS.

The Committee are distressed to note that out of these 138 cases only 7 cases have been disposed off so far. Moreover, there were 6 acquittals and one conviction in these 7 cases.

In view of the outcome of cases, the Committee cannot but deplore the way the Directorate General Mines Safety has handled the cases and recommend that the Government should take necessary steps to identify the deficiencies in prosecutions and take necessary steps to rectify the same in other pending cases.

Every accident causing loss of life is enquired into by the Internal Safety Organisation of the Company and necessary disciplinary proceedings initiated against those indicted for acts of commission/ ommission leading to the accident.

Comments of the Ministry of Labour

Case of violations of Mines Act, 1952 and sub-ordinate legislation framed there under are filed in the Court of Chief Judicial Magistrate having the Jurisdiction. The matter of listing of the cases and its disposal follows the procedure set up by these courts over which the DGMS has no control at all. However, a proposal for setting up of Special Mining Tribunals for speedy trials of Mines Act cases is under consideration of Govt. Most of the cases take a long time, during which the inspecting officer who is the complainant is usually transferred elsewhere. He has to therefore undergo long travel to attend the court of specific days which in many cases is unfortunately adjourned. This causes loss of time and money. Further inspection activities also suffers as the inspecting officer's time is consumed in court work and incidental travels. Obviously, his interest in such court cases gradually reduces.

In order to make up these deficiencies a plan scheme titled "Enforcement of Mine Safety Laws through improved legal set up of DGMS" has been framed for inclusion in the 9th Plan.

[Ministry of Labour, OM No. H-11013/3/98-ISH-II]

[Ministry of Coal, OM No. 54012/3/98/CRC dated 22.3.99]

Status as on 8.2.2001:

25 accident cases have been lodged by DGMS against BCCL employees during the period of 1993–97. During the last 3 years as per BCCL record, 65 cases of accidents have been reported. In all the cases there have been recommendations and fixation of responsibility by Internal Safety Organisation of BCCL also. Not much differences have been noticed by the enquiry proceedings of the two different agencies.

[Ministry of Coal, OM No. 54012/3/98/CRC dated 8.2.2001]

Comments of the Committee

(Please *See* Paragraph 21 of Chapter I of the Report)

Recommendation No. 13

Danger to Rail Tracks

The Committee are concerned about the danger to railway tracks due to fire and subsidence problems. The Committee find that mining activities have been undertaken around railway tracks on Adra-Gomoh. Dhanbad-Patherdih and Grandchord line of eastern region. The statutory and mandatory regulations regarding underground mining have not been followed. Many Sections of tracks are under distress due to spontaneous ignition of the underground seams left unminded.

According to Ministry of Railways, the restoration work by BCCL has not been able to control the incidence of mine fire around the railway tracks. The Committee find contradictory reports about the danger to Grandchord line. The Committee feel that immediate steps should be taken in the affected areas of Grandchord line to ensure that underground fires in the mines which may result into subsidence should not pose any danger to it. The Committee desire that for better coordination, regular meetings should be held between representatives of railways and coal companies to monitor and review the position of fire and subsidence affected rail tracks.

Underground workings were made below Adra-Gomoh and Dhanbad-Patherdih railway tracks during pre-nationalisation period. BCCL has not made any workings below these lines.

The Grandchord railway line lies on non-coal bearing region in BCCL command area and as such there is no danger to Grandchord line. No underground workings exists below this railway line. The Grandchord railway line is not therefore endangered.

BCCL has taken steps to save the Dhanbad-Patherdih line and Adra-Gomoh line from encroachment of fires by taking various safety measures, which are being continued till date.

In respect of Dhanbad-Patherdih railway line isolation trench has been made since early 80's and the workings below the railway track have been stabilised by cement grouting through surface bore holes at Lodna-Bagdigi sector. Further, water pooling on the surface has also been carried out to prevent encroachment of fire.

An EMSC scheme sanctioned by the Ministry of Coal for dealing with fire and subsidence at Lodna for subsidence control and protection of Dhanbad-Patherdih railway line is presently under implementation.

In Bararee sector, the fire area has been blanketed near the railway track and further blanketing work shall be taken up.

In case of Adra-Gomoh line, blanketing has already been carried out to control the fire on the eastern side. Fire control precaution shall be taken on the western side of the track also.

[Ministry of Coal, OM No. 54012/3/98/CRC dated 22.3.99]

Status as on 8.2.2001:

A scheme for dealing with fire and subsidence control at Lodna Colliery was sanctioned by Govt. of India. Ministry of Coal for a total outlay of Rs. 3.34 crores in March'98 which is under implementation. 23,000 Cu.m. of sand stowing has been done through bore holes near Railway track on Dhanbad-Patherdih Railway line, 10,000 Cu.m. of spreading and covering material have been blanketed over fire area.

Regular interactions with the officials of Eastern Railway are held, for the purpose of monitoring etc.

The matter had been taken up with Ministry of Railways at MOS (C) level to constitute a committee for resolving the issue and for submitting a report on following points:—

1. Status of various railway routes with respect to its safety.
2. Suggestion for remedial measures which may include realignment of the existing railway routes.

Response of Ministry of Railways to the proposal of Ministry of Coal is awaited.

[Ministry of Coal, OM No. 54012/3/98/CRC dated 8.2.2001]

Comments of the Committee

(Please *See* Paragraph 28 of Chapter I of the Report)

Recommendation No. 14

Regarding establishing a suitable method of delineation of underground voids. The Committee have been informed that a Science and technology project had been taken up jointly by Lavall University Qubec, Canada, Mining Geological and Metallurgical Institute (MGMI) and Central Mine, Planning and Design Institute (CMPDIL). The findings of the project report are stated to be not conclusive for an accepted level of confidence in delineating old and inapproachable workings. Although, the Committee feel satisfaction towards enough R&D work initiated with interaction and involvement of expert bodies from the country and abroad and expenditure incurred to impart training to engineers and experts abroad to study mine fire and subsidence control methods yet, the Committee are constrained to note that no concrete methods have been developed/employed to control mine fire and subsidence. The Committee have been informed that in trying to locate the old workings for the purpose of stowing-in from the surface, there would not be insurmountable difficulty. The difficulty which may be faced is to stow a bore-hole that may fall on pillar and may not allow stowing materials underground. Such old workings are very shallow, may be 50-250 feet deep and it may result only in additional boring at a little cost to locate a new stowing bore-hole position. In this connection, the Committee would like the Ministry of Coal to obtain an expert opinion to broadly delineate the border of voids and old stooks to the extent of accurate identification. The Committee suggest that feasibility of this technique may be examined forthwith and if successful, may be tried on a large scale instead of waiting for a perfect solution.

The best available technique for dealing with mine fire as can be obtained through R&D work and group training abroad, is being utilised for fighting fire in both Raniganj and Jharia Coalfields.

ECL/CMPDI has been in communication with various universities and scientific bodies both in India and abroad to explore the possibilities of getting the technology to delineate water-logged inaccessible underground workings.

Ascertaining the efficacy of hydro-pneumatic stowing in the water-loddged workings of Raniganj has been a problem area till now. NIRM (National Institute of Rock Mechanics, Kolar) along with CMPDI is going for an S&T project to establish a system of ascertaining the voids 40 to 50 metres below the ground by a method known as "Ground Probing Radar Technique".

In the meantime, such water-logged inaccessible old workings are being stablished through the process of hydro-pneumatic stowing.

[Ministry of Coal OM No. 54012/3/98.CRC dated 22.3.99]

Status as on 8-2-2001:

Based on the old plans (which may not be dependable) the stowing of the unapproachable underground voids is being carried out by putting bore holes from surface. At present stowing of unapproachable underground voids is being carried out.

Details of works carried out and in pipeline are given below:

ECL Command Area

1. Fatepur-30,000 cum of sand stowing has been done.
2. Borachak - 38,000 cum of sand stowing has been done.
3. Haripur - 21,000 cum of sand stowing has been done.

These schemes are likely to be completed by 2001.

Stowing at following places have been taken up and is in progress:

1. Palasban Area
2. Gowala Basti
3. Porarbandh Area
4. Pottary Area
5. Bhutdoba Basti

It is proposed to stow 2,000 cum in first phase at each of these places.

BCCL Command Area

1. Karijore - This has been completed in June 1999
2. Chatkijore (XIIIB Seam) Jairampur Colliery-Likely to be completed in 2001.
3. ROCP/South Jharia
4. Alkusa
5. Lodna
6. Industry

The last 4 schemes are scheduled to be completed in 2003/2004.

[Ministry of Coal OM No. 54012/3/98.CRC dated 8.2.2001]

Comments of the Committee

(Please *See* Paragraph 31 of Chapter I of the Report)

Recommendation No. 15

As regard stabilishing old abandoned mines, the Committee observe that the plan of stabilisation by hydro-pneumatic stowing of suspected unstable areas in Raniganj coalfields has been done on a pilot scale and efficiency of the method has not yet been established. There is nothing to suggested that the stability of the areas subsequent to hydro-pneumatic stowing has improved. The Committee have been informed that assessment of such stowing can be done by Acoustic Emission Monitoring Technique (AEMT) which would otherwise be a difficult task. The Committee have also been apprised that this technique should be adopted consisting the fact that human lives are involved and considerable expenditure is also being made on stowing operations. The Committee feel that the responsibility for this rests with scientists of CMRI, DGMS and that of Coal companies. The Committee, therefore, desire the Ministry of Coal to take up the matter with the Ministry of Science and Technology to explore/adopt the suitable technology to assess the efficacy of stowing operation. The Committee feel that the Government should pay attention to this and introduce new technologies for getting pre-warning of dangers, impending collapse of strata or subsidence, ascertaining strength of coal barriers against water logged workings etc.

Ascertaining the efficacy of hydro-pneumatic stowing in the water-logged workings of Raniganj has been a problem area till now. NIRM (National Institute of Rock Mechanics, Kolar) along with CMPDI is going for an S&T project to establish a system of ascertaining the voids 40 to 50 metres below the ground by a method known as "Ground Probing Radar Technique".

[Ministry of Coal OM No. 54012/3/98.CRC dated 22.3.99]

Status as on 8-2-2001:

Geo-physical survey system to ascertain void in old, abandoned, water-logged, unapproachable underground workings is yet to established.

[Ministry of Coal OM No. 54012/3/98.CRC dated 8.2.2001]

Comments of the Committee

(Please *See* Paragraph 31 of Chapter I of the Report)

NEW DELHI;
14 *December*, 2001
23 *Agrahayana*, 1923 *(Saka)*

SONTOSH MOHAN DEV,
Chairman,
Standing Committee on Energy.

ANNEXURE I

MINUTES OF THE FIRST SITTING OF THE SUB-COMMITTEE 'F' ON ACTION TAKEN REPORTS OF THE STANDING COMMITTEE ON ENERGY (2001) HELD ON 12TH DECEMBER, 2001 IN COMMITTEE ROOM 'C', PARLIAMENT HOUSE ANNEXE, NEW DELHI

The Sub-Committee met from 15.00 hrs. to 15.30 hrs.

PRESENT

Shri Sontosh Mohan Dev — *Chairman*

Shri Tilakdhari Prasad Singh — *Convenor*

MEMBERS

3. Shri Vijayendra Pal Singh Badnore
4. Shri Amar Roy Pradhan

SECRETARIAT

1.	Shri P.K. Bhandari	—	*Director*
2.	Shri R.S. Kambo	—	*Under Secretary*

2. At the outset, the Covenor, Sub-Committee 'F' on Action Taken Reports of the Standing Committee on Energy welcomed the Members to the sitting of the Sub-Committee.

3.The Sub-Committee then took up for consideration the following draft Reports:-

(i) Action Taken Report on the recommendations contained in the 10th Report (Twelfth Lok Sabha) on the subject "Fire and Subsidence Control in Coal Mines".

(ii) Action Taken Report on the recommendations contained in the 18th Report (Thirteenth Lok Sabha) on Demands for Grants (1999-2000) of the Ministry of Coal.

(iii) Action Taken Report on the recommendations contained in the 14th Report (Thirteenth Lok Sabha) on Demands for Grants (2001-2002) of the Department of Atomic Energy.

(iv) Action Taken Report on the recommendations contained in the 15th Report (Thirteenth Lok Sabha) on Demands for Grants (2001-2002) of the Ministry of Non-Conventional Energy Sources.

(v) Action Taken Report on the recommendations contained in the 16th Report (Thirteenth Lok Sabha) on Demands for Grants (2001-2002) of the Ministry of Power.

(vi) Action Taken Report on the recommendations contained in the 17th Report (Thirteenth Lok Sabha) on Demands for Grants (2001-2002) of the Ministry of Coal.

4. The Sub-Committee adopted the aforesaid draft Reports with minor additions/deletions/amendments.

The Sub-Committee then adjourned.

SECRETARIAT

1. Shri P.K. Bhandari — *Director*
2. Shri R.S. Kambo — *Under Secretary*

2. At the outset, the Chairman, Standing Committee on Energy welcomed the Members to the sitting of the Committee.

3. The Committee then took up the following draft Reports, already considered and adopted by the Sub-Committee 'F' on Action Taken Reports, for consideration:—

(i) Action Taken Report on the recommendations contained in the 10th Report (Twelfth Lok Sabha) on the subject "Fire and Subsidence Control in Coal Mines".

(ii) Action Taken Report on the recommendations contained in the 18th Report (Twelfth Lok Sabha) on Demands for Grants (1999-2000) of the Ministry of Coal.

(iii) Action Taken Report on the recommendations contained in the 14th Report (Thirteenth Lok Sabha) on Demands for Grants (2001-2002) of the Department of Atomic Energy.

(iv) Action Taken Report on the recommendations contained in the 15th Report (Thirteenth Lok Sabha) on Demands for Grants (2001-2002) of the Ministry of Non-Conventional Energy Sources.

(v) Action Taken Report on the recommendations contained in the 16th Report (Thirteenth Lok Sabha) on Demands for Grants (2001-2002) of the Ministry of Power.

(vi) Action Taken Report on the recommendations contained in the 17th Report (Thirteenth Lok Sabha) on Demands for Grants (2001-2002) of the Ministry of Coal.

4. The Committee adopted the aforesaid draft Reports with minor additions/deletions/amendments.

5. The Committee also authorised the Chairman to finalise the above-mentioned Reports after making consequential changes arising out of factual verification by the concerned Ministries/Department and to present the same to both the Houses of Parliament.

The Committee then adjourned.

ANNEXURE III

(*Vide* Para 4 of the Introduction)

ANALYSIS OF ACTION TAKEN BY THE GOVERNMENT ON THE RECOMMENDATIONS CONTAINED IN THE TENTH REPORT (TWELFTH LOK SABHA) OF THE STANDING COMMITTEE ON ENERGY

I.	Total No. of Recommendations	22
II.	Recommendations that have been accepted by the Government (*vide* recommendation at Sl. Nos. 1, 2, 3, 6, 9, 18, 20, 21 and 22).	9
	Percentage of total	40.90%
III.	Recommendations which the Committee do not desire to pursue in view of the Government's replies (*vide* recommendation at Sl. Nos. 4, 8 and 12).	3
	Percentage of total	13.66%
IV.	Recommendations in respect of which reply of the Government has not been accepted by the Committee (*vide* recommendation at Sl. Nos. 5, 7, 11, 16, 17 and 19).	6
	Percentage of total	27.26
V.	Recommendations in respect of which final replies of the Government are still awaited (*vide* recommendation at Sl. Nos. 10, 13, 14 and 15).	4
	Percentage of total	18.18%